

Protected Areas Programme

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PARKS is published to strengthen international collaboration among protected area professionals and to enhance their role, status and activities by:

- maintaining and improving an effective network of protected area managers throughout the world, building on the established network of WCPA;
- serving as a leading global forum for the exchange of information on issues relating to protected area establishment and management;
- ensuring that protected areas are placed at the forefront of contemporary environmental issues such as biodiversity conservation and ecologically sustainable development.

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Cover photo: Tulip montana, Horsh Ehdn Nature Reserve, Lebanon. Photo: Faisal Abu-Izzeddin.

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Editorial

MOHAMMAD SULAYEM

THIS ISSUE of Parks is published on the occasion of IUCN's Second World Conservation Congress (WCC II) in West Asia (Amman, Jordan 4–11 October 2000). It features articles on subjects related to protected areas in countries of this region.

It is a special event for IUCN's West Asia region to be chosen to host the first World Conservation Congress this Millennium. The event provides an opportunity for PARKS to introduce, through the papers published in this edition, several issues related to protected areas in this part of the world. A summary of the regional WCPA protected areas action plan and project proposal for North Africa and the Middle East is presented. This plan has been put together, discussed and finalised by a number of WCPA members from the region with valuable contributions from other experts. Since its completion, it has been gaining praise and approvals from countries and protected area agencies in the region.

This edition also features an article on community involvement and the potential role of eco-tourism in the protected areas of Saudi Arabia. Two successful experiences are presented, namely Jordan's Dana Reserve Project and Lebanon's Al-Shouf Cedar Nature Reserve, Horsh Ehdan Nature Reserve and Palm Islands Nature Reserve Project. Other papers in this issue provide an overview of protected areas in Turkey and highlight the potentials for eco-tourism in Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and United Arab Emirates. Moreover, an article on exploration for natural gas in Kirthar National Park, Pakistan is included. Mining in protected areas is one of the major issues facing conservation agencies in different parts of the world.

I believe that these papers will offer some useful background on this large, diverse region with its traditional and contemporary conservation practices. Those who attend WCC II will have the opportunity to visit the Dana Project. The paper on the three Lebanese protected area projects should encourage WCC II participants to visit this beautiful neighbouring country.

I hope this issue, with its experiences from West Asia region, will be of interest to the readers of PARKS magazine.

Finally, I hope for a very successful World Conservation Congress and very productive participation from attendants.

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The WCPA regional action plan and project proposal for North Africa and the Middle East

OTHMAN ABD-AR-RAHMAN LLEWELLYN

The WCPA Regional Action Plan and Project Proposal were originally drafted by conservation agencies of the countries of the region¹ at the Riyadh Conservation Forum, 1–4 October 1995. The documents were further developed and revised by myself and other people in the region through extensive consultations with WCPA and IUCN. The revised documents were discussed, amended, and endorsed at the Regional Conservation Forum in Amman, Jordan in February 1998, and finalised at the West / Central Asia and North Africa Programme Planning Workshop at Riyadh in September 1999.

The Regional Action Plan and Project Proposal have been developed largely within the framework of the relevant international agreements on conservation in general and in particular the Convention on Biological Diversity. Most of the 22 countries in the North Africa and the Middle East Region are parties to the CBD, and more countries are expected to accede to it in the near future. The Regional Action Plan and Project Proposal aim to assist signatory states to meet their obligations under the CBD to establish or expand their protected area systems, develop the necessary legislation and training, and initiate sustainable development through such activities as nature-based tourism.

In addition to their linkages with the Convention on Biological Diversity, the Regional Action Plan and Project Proposal have strong linkages with the World Heritage Convention, the Convention on Migratory Species, the Convention to Combat Desertification, Ramsar, and the Convention on Climate Change. It is also closely linked to the UNESCO Man and the Biosphere Programme.

THE WCPA REGION of North Africa and the Middle East is situated at a junction between three continents and includes parts of the Atlantic and Indian Oceans, the Mediterranean, Red, Black, Caspian and Arabian Seas, and the Persian/Arabian Gulf.

This geographic situation has resulted in exceptional biological diversity. In addition, the presence of isolated or semi-isolated seas and climatic change since the last ice age have led to a high degree of endemism and many relict species of plants and animals.

In this largely arid and semi-arid region, the greatest diversity and abundance of life is concentrated in particular ecosystems. Among these are the freshwater wetlands, the mountains and woodlands, and coastal habitats such as coral reefs, mangroves, seagrass beds, saltmarshes, and mudflats. Most of these sites are relatively small in area, but they are of enormous importance to the region's biological productivity and ecological integrity. They are the main refugia or sites of endemism and reliction, and serve as vital wintering and stepping-stone sites for migratory birds.

¹ The countries of the WCPA North Africa and Middle East Region include Afghanistan, Algeria, Bahrain, Cyprus, Egypt, Iran, Iraq, Israel, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Palestine, Qatar, Saudi Arabia, Syria, Tunisia, Turkey, United Arab Emirates, and Yemen.

The socio-cultural context

The region is not only a geographical crossroads but also a historical and cultural crossroads. It has been the site of some of the most ancient civilisations and the birthplace of the great monotheistic religions. Its natural resources have been subject to intensive human use; farming, pasturage, forestry, hunting, fishing, and other resource uses have been practised continuously since the dawn of history.

One result of such intensive resource use has been a heritage of highly developed principles, institutions, and techniques for the equitable and efficient use of scarce resources. Examples include Islamic water law and the institution of the *hima* or protected area, which is enshrined in Islamic law and is one of the world's oldest and best developed traditions of protected areas. Technologies include the sophisticated methods of terracing, rainwater harvesting, and irrigation found throughout the region.

On the other hand, such intensive use of natural resources has led to considerable degradation of the region's woodlands, rangelands, wetlands, soils, and fisheries. Much of the most severe degradation has occurred within the last 50 years or so, and particularly the most recent decades, as burgeoning populations, new technologies, and increased wealth have fuelled dredging, landfilling, and pollution on a scale never witnessed before, draining of wetlands and overgrazing of rangelands in ever increasing severity, and depletion of fossil groundwater for unsustainable agricultural expansion. In the race for economic development, the region's heritage of caring for the earth has been largely neglected or forgotten.

Environmental awareness has been at a low ebb during the past century, when economic development was almost universally held to be the main priority of countries in the region. In recent years, however, environmental awareness has begun to spread. More and more books and essays, radio and television programmes from within the region are now calling its people to reassert neglected principles of their heritage that pertain to conservation. Voluntary conservation groups, non-governmental organisations (NGOs), and even a few privately-owned reserves have begun to appear. Still, there is much scope for environmental awareness to be deepened; many people continue to see conservation as a luxury for the wealthy.

The state of protected areas in the region

As is shown in the IUCN Regional Reviews of Protected Areas², the network of protected areas in North Africa and the Middle East is characterised by enormous discrepancies between countries that have well developed protected area system plans and countries that have no protected areas whatsoever, countries with protected areas legislation and countries without, countries with cadres of trained protected area managers and rangers, and countries in which protected areas have no managers or law enforcement.

The management of many protected areas in the region falls below acceptable international standard. Many protected areas in the region are still thoroughly protectionist in orientation, and this has bred hostility among the rural populations that are crucial to the protected areas' success. In very few protected areas have the local populations been successfully involved as participants in management.

² IUCN, 1994 *Protecting Nature: Regional Reviews of Protected Areas*, Pp. 73–99.

The WCPA Regional Action Plan

The Regional Action Plan concentrates on four key objectives and a limited number of specific actions, which relate to these objectives. It is intended to focus only on the issues that are most pressing and important for protected areas in the region. This Action Plan has the following objectives:

- to ensure more effective establishment and management of protected areas in the region;
- to strengthen the capacity of protected area institutions and managers in the region;
- to increase awareness of the values of protected areas, at all levels, within the region; and
- to build a stronger WCPA network within the region.

Priority actions are identified under each of these objectives at three levels: (a) national; (b) regional; and (c) international. Actions at a *national level* are worded as specific recommendations to national governments; actions at the *regional level* are worded as recommended tasks for the WCPA Vice Chair, the WCPA Regional Steering Committee (as individual members and collectively) and other relevant individuals/organisations; and actions at the *international level* are worded either as specific tasks for relevant international organisations or in the context of the potential for cooperation. An integrated project proposal, covering a number of these actions, is attached as the Project Proposal.

The project proposal

Objectives

The project aims to optimise the contribution that protected areas can make in conserving biological diversity in the region and contributing to sustainable development. It also aims to assist governments in the region in meeting their obligations with regard to the implementation of The Convention on Biological Diversity and the Convention to Combat Desertification. Within this broad aim, the project has the following objectives:

- to develop and implement protected area training programmes in the region;
- to develop more effective and appropriate protected area legislation, at a national level, which reflects the needs and unique circumstances of each country;
- to develop a number of pilot protected areas in the region as well as guidelines for their more effective establishment and long-term management; and
- to develop guidelines relating to ecotourism and protected areas in the region.

Key components

Training

The lack of skilled staff is a major constraint to the effective establishment and management of protected areas in the region. The management of many protected areas falls below acceptable international standards. Such disciplines as protected area planning and management, wildlife management and environmental sociology are not yet taught in the region's academic institutions. Two training centres have recently been established in the region, but there are almost no university courses or degree programmes in the subjects most closely related to protected area management.

Skills are particularly needed in the following areas: involvement of local stakeholders; conflict resolution; planning and management of protected areas including marine protected areas; application of information arising from research and monitoring programmes to management; and development of environmental awareness and education programmes. The development of skills must embrace legal and socio-economic as well as ecological aspects of protected area management.

The primary focus of training in this proposal is on personnel directly involved in the management of protected areas, including upper level managers and administrators, middle level managers, researchers, rangers, and tourist guides; however, there are other important target groups. These include decision-makers who work in other agencies but whose decisions may influence the establishment and management of protected areas.

Within the region there are already training facilities available in some of the countries. There are also some initiatives underway for the development of regional training facilities. The intent of this proposal is to support and complement existing initiatives.

Outputs of the training component will include:

1. A comprehensive published review of needs and opportunities for training within the region.
2. A range of cooperative regional training courses and activities and a range of regional training materials.
3. Support to identified training centres in the region.
4. A source book of training opportunities, including outstanding and appropriate courses of study in at universities, research and training centres as well as field courses and study tours available with conservation agencies world-wide. The source book will also include academic degree programmes available at universities.

Protected area legislation

The legislative basis for protected areas is weak in the region. Some countries have no protected area legislation. Others have basic legislation, but few provisions to make creative use of the region's rich heritage of traditional institutions and indigenous conservation practices. There are also few provisions to involve local citizens as participants in the establishment and management of protected areas, or to ensure that any benefits generated from the use of protected areas are equitably shared with the local people. In many instances implementation and enforcement are given insufficient attention. On the other hand, many countries in the region are parties to the Convention on Biological Diversity, which requires them to develop a proper legal basis for their protected-area systems. The project will assist signatory countries to fulfil this obligation.

This element of the project proposal aims to assist countries to develop effective and appropriate protected area legislation which is enforceable and is flexible enough to be relevant to the wide variety of legal systems that are in use in the countries of the region as well as the unique needs and circumstances of the individual countries.

This component will be implemented as a cooperative project between IUCN Commissions (WCPA and the Commission on Environmental Law) and the relevant countries. It will aim to design and implement protected area legislation in at least six countries in the region over the five-year period of the project. The sub-regions

within the region will be fairly represented. It will also result in the preparation of published guidelines for countries in the region to assist them in the design and development of protected area legislation. These guidelines will draw on the full range of international experience as well as *shari'ah* institutions and legal instruments, and indigenous customary practices.

Outputs of the legislative component will include:

1. A comprehensive review of existing protected area legislation in the countries of the region.
2. Design and development of legislation in full consultation with relevant organisations and individuals in each of the six pilot countries.
3. Published regional guidelines for the development of protected area legislation in countries of the region.
4. Implementation of four regional training courses on protected area legislation to be taught at a training centre in the region.

Pilot protected areas

There is an acute need to improve the region's standards of protected area planning and management, with respect both to conservation of biological diversity and the sustainable use of natural resources.

Broad agreement with these objectives exists among conservation agencies within the region. But there is a need for highly successful pilot or 'model' protected areas that are effective in conserving the region's biological diversity and at the same time demonstrate how community participation in the management of protected areas can bring tangible sustainable benefits.

The UNESCO Man and the Biosphere Programme provides an excellent framework for the realisation of these objectives in the Seville Strategy, which relates MAB to the implementation of the Convention on Biological Diversity. The possibility of developing a joint initiative with the Man and the Biosphere Programme will therefore be explored in light of the potential synergy between MAB and the CBD. Employing zonation with core areas for the conservation of biodiversity, and buffer and transition zones in which sustainable management of ecosystem resources is practised in cooperation with local communities, biosphere reserves aim to satisfy ecological, economic and social criteria, and accord with the objectives of bioregional planning. The MAB Programme further provides a framework for research, monitoring, education, and training under the auspices of UNESCO. The project will also benefit from the expertise of WCPA's newly established theme programme on biosphere reserves.

A strong linkage will also be developed between pilot protected areas and the Convention to Combat Desertification, which will constitute a framework for the restoration of degraded ecosystems. Other potential linkages can be made with the Ramsar and World Heritage Conventions.

The project will be implemented in partnership between WCPA (working jointly with IUCN Commission Economic and Social Policy (CEESP) and Commission on Education and Communication (CEC) where appropriate) and respective national governments. It will result in the establishment of a minimum of six pilot protected areas in the region over the course of the project and also the preparation of published guidelines relating to the selection, establishment and management of protected areas.

Each pilot protected area should serve as a model of excellence with regard to both conservation of the Region's biological diversity and contribution toward its sustainable development. Pilot protected areas should meet the following criteria:

1. They should represent regional priorities for conservation of biological diversity as:
 - i. sites of outstanding biological value (examples include freshwater wetlands, mountain refugia, forests and woodlands, islands, coral reefs, mangroves and seagrass beds); and/or
 - ii. by filling major gaps in the region's protected area network with regard to the representation of its ecosystems (examples of such gaps include the montane refugia of Arabia and the eastern Mediterranean, Atlas and Afghan mountains; the wetlands of the Mediterranean, Mesopotamia and Anatolia; the steppic habitats of the Atlas Mountains, Anatolia, Arabia and Afghanistan; and the marine and coastal ecosystems of the Mediterranean, Red Sea, Caspian Sea and Persian/Arabian Gulf)³; and/or
 - iii. by contributing significantly to the restoration of degraded ecosystems; and/or
 - iv. by including viable populations of key plants and animal taxa of such as rare and threatened species; endemic, near-endemic and taxa and specie of special ecological, economic or cultural value.

2. They should ensure community participation in protected area management, leading to the generation of sustainable and tangible benefits that are:
 - i. shared equitably among stakeholders, and
 - ii. constitute effective incentives for conservation through arrangements which link the allocation of such benefits to accountability for wise use.

3. They should demonstrate high potential value for communicating the lessons learned widely within the region and should be well-suited or research and monitoring. They should also be well-suited for study tours, internships, and the like, so that they can be used for training purposes.

4. They should demonstrate a high likelihood of success:
 - i. by being well researched, documented, planned and designed; and
 - ii. by having the support of both the relevant governing authorities and the local people.

5. The selected areas should provide good examples of ecosystem restoration work. They should be suitable for demonstrating nature-based tourism, and at least one site should be a transboundary protected area.

6. They should have major funding already available from public and/or private sources, and thus require only limited financial inputs from the project for specified enhancements.

³ See IUCN, 1994. *Protecting Nature: Regional Reviews of Protected Areas*, Pp 84–87 and WWF, *The Global 200 EcoRegions*.

The final selection of pilot protected areas will be made by the WCPA Steering Committee in accordance with the criteria listed above. In addition to selecting those sites which are best shown to meet these criteria, the Steering Committee will ensure that the sites are well distributed geographically with respect to the various subregions, that they represent a variety of terrestrial and coastal/marine ecosystems, and that they address a variety of socio-economic issues.

Outputs of this component will include:

1. A minimum of six pilot protected areas which may or may not be biosphere reserves, but which meet all the criteria implied by this designation, and also meet the criteria listed above.
2. Six management plans, based on proper consultative processes with the local populations as well as on internationally and nationally recognised legal frameworks.
3. Six properly functioning pilot protected areas providing examples of different aspects of protected area management in the region.

Nature-based tourism and ecotourism

One of the most promising ways for protected areas to generate tangible and sustainable benefits is from nature-based tourism, and particularly its most refined manifestation, eco-tourism⁴. Nature-based tourism can provide a meaningful incentive and economic justification for conservation, as it depends on the maintenance of unspoiled nature and thriving communities and wild plants and animals. In addition, it can generate an influential and articulate clientele who would serve as advocates for the conservation of protected areas. If it is not managed very carefully, however, nature-based tourism tends to degrade the very resources upon which it depends, and this has been happening throughout the region.

The entire spectrum of nature-based tourism, from ecotourism to nature-based mass tourism, is applicable to protected areas, and should respond to the spectrum of IUCN protected area management categories. It also corresponds to the spectrum of zonation that may exist within a protected area such as a biosphere reserve. True ecotourism is applicable primarily but not exclusively to protected areas or parts of protected areas that are zoned as wilderness, while environmentally sensitive nature-based mass tourism is compatible with sites that are zoned and designed to handle large numbers of visitors, and are equipped with environmental education centres, interpretative trails, sewage disposal, car parks and the like. Such sites are typically found adjacent to protected areas or within their transition and buffer zones.

According to the World Tourism Organisation, one of five major tourism trends will be an important growth in adventure tourism and in eco-tourism. The WTO also forecasts solid growth in cultural tourism, and North Africa and the Middle East are among the regions where this is expected to occur in the near future.

⁴ Nature-based tourism denotes all tourism that is dependent on relatively undeveloped natural and semi-natural areas. Eco-tourism is properly defined more narrowly as 'environmentally responsible travel and visitation to relatively undisturbed natural areas, in order to enjoy and appreciate nature (and any accompanying cultural features – both past and present) that promotes conservation, has low visitor impact, and provides for beneficially active socio-economic involvement of local populations'. The term thus denotes nature-based tourism with a strong normative element; it necessarily implies good management of a limited number of visitors and high standards of ecological and social responsibility. A management plan for the development of sustainable tourism at the site level is a fundamental tool to achieve this.

This component aims to ensure that nature-based tourism within and around protected areas in the region can effectively contribute to conservation, sustainable development and poverty alleviation by bringing sustainable benefits to national and local economies.

It is essential to ensure that the developments and activities associated with tourism do not compromise the natural and cultural values for which protected areas have been established in the first place. Of course, this can only be ensured through effective management of these areas. Necessary also is the development of strong partnerships between protected area agencies and tourism agencies, including commercial operators.

The marketing and communication of nature-based tourism, its requirements and potential for the countries in the region is of critical importance. Protected area managers need to be proactive in developing and communicating the right messages to decision makers, the business sector, local communities, and visitors. Institutional mechanisms to promote this dialogue do not exist in most cases. Hence this programme component aims to build up this process through the development of regional guidelines.

Nature-based tourism can be one of the most effective avenues for environmental education and awareness, while making the tourism experience exciting and enjoyable. Protected area managers and interpreters need to learn to make the most of the opportunity to communicate environmental understanding and awareness to visitors. The expertise of IUCN's Commission on Education and Communication will be enlisted to impart the requisite communication skills.

Partnerships with local stakeholders will be integral to the project. It will develop and test strategies to help them develop their capacity to cope, withstand, benefit and contribute in a fully participatory decision-making capacity. The expertise of IUCN's Commission on Environmental, Economic and Social Policy and Commission on Education and Communication will be enlisted to ensure the full participation of local stakeholders.

Outputs of this component will include:

1. Published guidelines for nature-based tourism and ecotourism within protected areas in the region. This will include: a code of practice for protected area agencies and managers as well as for tour operators, and practical management recommendations on how to integrate tourism with the sustainable use of natural and cultural resources, including support and involvement of relevant stakeholders.
2. Implementation of guidelines in two or more protected areas.

Project management, monitoring and evaluation

The project will be implemented under the direction of a Programme Executive, composed of members of the WCPA Regional Steering Committee for North Africa/Middle East, plus the chairs of the Steering Committees that will be established for each of the four components of the programme. The project will be administered by the IUCN Regional Office for the North Africa and West Asia Region, based at the IUCN Headquarters in Switzerland. The role of this office will be to manage the project budget, engage consultants, negotiate sub-contracts, and coordinate the inputs to be provided by the IUCN technical programmes and Commissions. The global IUCN Protected Areas Programme will act as Principal Technical Advisor.

In order to ensure that the programme is implemented properly and meets its overall objective as well as the objectives for the different sub-components, an external review of the entire programme will be undertaken in the project's third year.

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Trends in Saudi Arabia: increasing community involvement and a potential role for eco-tourism

PHILIP J. SEDDON

The historical approach of establishing national parks that are somehow isolated from the greater society has been overtaken by a new approach to conservation of species and ecosystems ... Our Common Future (WCED 1990).

In the last ten years there has been a global shift away from the preservationist approach to protected area management and increasing recognition that local community involvement is essential if long-term conservation objectives are to be met. In Saudi Arabia, where formal wildlife protected areas have been in existence for only 15 years, the exclusion of traditional resource users has led to conflicts within and around reserves, and has stalled the development of the protected area network.

Recent initiatives have sought to increase public support for protected areas in Saudi Arabia through the creation of multiple use zones; through increased consultation with tribal leaders; through the employment of wildlife rangers from surrounding communities; and through assessment of the potential role of eco-tourism in facilitating regulated public access, generating revenue, and providing opportunities for environmental education.

If we treat our national parks, nature reserves and protected areas as 'islands set aside from human use' they will come under increasing ... risk of submergence in a human sea. Martin Holdgate, IUCN Director General, 1989.

THE EARLIEST development of areas of natural beauty for recreation involved the taming of small patches within a sea of wilderness so that people could enjoy nature without its associated discomforts and dangers. This was the concept behind the development last century of a spa utilising the hot springs at Banff, Canada. Surrounded by a vast wilderness of mountain forests the early visitors to the Banff hot springs must have felt that human impact on nature was negligible.

It was not to remain negligible however, as expanding human populations and growing industrialisation increased the potential for humans to change the natural environment. In recognition of this threat to scenic natural sites, the world's first national park was created at Yellowstone in 1872. For many decades afterwards the concept of the national park was shaped by the Yellowstone model to involve the protection of special sites set aside from the ravages of ordinary use.

The World Conservation Strategy (IUCN 1980) explicitly acknowledged that surrounding communities tend to bear the costs of protected areas but receive few if any benefits, and called for the linking of protected area management with the economic activities of local communities. This was endorsed by the 1982 World Congress on National Parks and Protected Areas (WCNPPA), which called for increased consideration of the role of local people in protected area management.

In 1987 the report of the World Commission on Environmental Development (WCED) introduced the concept of sustainable development, emphasising the need to integrate and balance the objectives of environmental conservation and human development (WCED 1987). The principles of sustainable development were further developed in *Caring for the Earth* (IUCN *et al.* 1991), in which the wider functions and benefits of a protected area system were recognised.

Delegates to the IVth WCNPPA, held in Caracas in 1992, recognised that the 'island mentality' (McNeely 1993) view of protected areas was fundamentally incompatible with the principles of sustainable development, ignoring as it does the relationships that may exist between people and their traditional lands. The Caracas Declaration stated that the establishment and management of protected areas: must be sensitive to the needs of local people; must attempt to inform and educate the general public about environmental concerns so as to gain their support; must develop mechanisms to involve all sectors of society; must develop the education role; and must develop ways in which to generate revenue and share such benefits equitably among all stakeholders.

The message was unambiguous – the old human exclusion national park model was neither a sustainable nor sufficient approach in which to integrate environmental conservation and human development in all situations. Clearly other models were needed in order to increase the management role of public and private sectors, and to build relationships with local communities.

The management of any protected area, particularly those in developing countries, will therefore face three challenges: a lack of funding in the face of decreasing government budgets for conservation, often arising from a lack of appreciation of the revenue earning potential of protected areas; a lack of public support stemming from poor conservation literacy in the general populace; and the need to increase the participation of and devolve tangible benefits to adjacent communities (Sale 1992).

The land; the wildlife; social, political, economic and environmental change; and a history of protected areas in Saudi Arabia

The destruction of the Kingdom's wildlife and its habitats is an ecological manifestation ... attributable as much to socio-economic as to ecological factors, although there is no denying the susceptibility of the delicate arid ecosystems to inappropriate management. Graham Child and John Grainger (1990).

Geology, climate and wildlife

The information presented in this section has been drawn from the following sources: Bindagji (1980); Child and Grainger (1990); Fisher and Membery (1998); Guba and Glennie (1998); Kürschner (1998); Mandaville (1990); McKinnon (1990); Nayeem (1990); Rands (1989).

The character of the Arabian Peninsula is a reflection of its African origins and its proximity to Asia. Once linked to Africa within the primordial landmass of Gondwana, the Arabian crustal plate, an extrusion of ancient crystalline rock split away some 35 million years ago along the seam that is now the Red Sea – part of the northern portion

of the Great Rift Valley. Today the distinctive landforms of Saudi Arabia are a legacy of intense volcanic activity near the western margins of the plate, but also attest to wetter periods, the most recent from 10,000 to 5000 years before present.

Saudi Arabia encompasses semi-arid (western Highlands) arid (northern and central steppes) and hyper-arid (Rub'al-Khali) regions. Inter-annual temperature variation is low and seasonal changes are regular, but mean ambient temperatures vary greatly between different areas, ranging from 18°C in the far north-west, to 31°C on the south-western coasts. An absolute maximum of 40–50°C has been measured over much of the Peninsula, lower only at the high western elevations. Rainfall is the main meteorological event of the year, characterised by high inter-annual variation and extreme local patchiness. Total annual rainfall ranges between <50 mm in the Rub al-Khali, to >400 mm in the south-western highlands.

The dominant feature of Arabia's floral and faunal elements has been described as one of alternate immigration and isolation, arising from the intermittent presence of land bridges between Africa and Asia, and alternating periods of aridity and high rainfall. The fauna present in Saudi Arabia today and in the recent past is a product of a process of influx during pluvial periods, followed by reduction in numbers and range during arid periods, some marked by waves of extinction. Surviving forms have become isolated by shrinking habitat, e.g. Asir juniper forest highlands, leading to relict populations (the *Mimusops* tree groves of the Asir), modified subspecific forms (the Asir magpie *Pica pica asirensis*), and the evolution of distinct endemic taxa (Arabian woodpecker *Dendrocopos dora*, Yemen thrush *Turdus menachensis*, and Philby's rock partridge *Alectoris philbyi*; and some 170 plant species in the south-western highlands). The Peninsula's mammal assemblage too reflects a mixture of Asia (grey wolf *Canis lupus*, red fox *Vulpes vulpes*, Blanford's fox *Vulpes cana*, marbled polecat *Vormela peregusna*), with a strong African influence (Hamadryas baboon *Papio hamadryas*, sand cat *Felis margarita*, caracal *Caracal caracal*, Rueppell's fox *Vulpes rueppelli*, honey badger *Mellivora capensis*, genet *Genetta felina*), and the presence of endemics such as the Arabian oryx *Oryx leucoryx*.

Saudi Arabia is important also for species which breed outside its borders, but use the Arabian Peninsula as a stepping stone between the western Palearctic and Africa. It's estimated that 2–3 billion birds migrate south across Arabia each autumn. Some of these approximately 190 migrant species are globally threatened, and all are vulnerable to persecution, particularly during stop offs or when over-wintering on the Peninsula.

Political, economic, social and environmental change in Saudi Arabia

... oil wealth has unfortunately led to environmental destruction due to insufficient planning and by allowing rural people to emancipate themselves from the ecological constraints that formerly limited their yields, but also prevented wholesale abuses of 'their' resources. Graham Child and John Grainger (1990).

The information in this section has been drawn from the following sources: Al-Kahem (1989); Allan and Warren (1993); Alwelaie (1985); Chaudhary *et al.* (1996); Child (1989); Child and Grainger (1990); Finan and al-Haratani (1996); Grutz (1999);

Harrison and Bates (1991); Jennings (1989); Kingery (1971); Lacey (1981); MAW (1989); Nader (1989); Parry (1999); Yergin (1991).

The birth of the modern Saudi State can be traced back to 1901 when Abdulaziz al-Saud, then a young man in his early twenties, gathered 40 men and moved on the capital of Riyadh. In what seems today to have been a relatively minor skirmish, this tiny army seized control of the Musmak fort and returned Riyadh to Saudi hands.

Through a process of conquest, inclusion and marriage Abdulaziz united what had previously been a patchwork of rival sheikhdoms, and moved in 1913 on the Turkish garrison at Hofuf. The next year, in 1914, Abdulaziz re-took the Al-Hasa oasis; significant enough then as the end of Turkish control of central and eastern Arabia, but hugely important in hindsight as it brought under Saudi control the most valuable piece of real estate in the world – the region containing the oil.

The disintegration of Turkish authority in the Hijaz after WWI allowed Abdulaziz to move westwards, gaining Hail and the Asir by 1920, and the port at Jeddah and the holy cities of Makkah and Medina by 1927. The authority of the House of Saud was unchallenged. The Kingdom of Saudi Arabia was proclaimed in 1932.

Oil exploration began in 1933, but it was five years and six unproductive wells later, in March 1938, that the SOCAL subsidiary, CASOC (California Arabian Standard Oil Company), struck oil with Well No. 7 on the Damman Dome. It soon became evident that Saudi Arabia's Eastern Province sat over the largest pool of oil in the Middle East.

The impact on Saudi Arabia of the revenue generated by the sale of petroleum products has been massive and sustained. At the peak of oil prices in 1981 Saudi Arabia was making about US\$3000 a second from oil; the main contribution to a US\$150 billion GDP. Even today, a single day's production of Saudi crude oil is sufficient for a car getting 25 mpg to make 48 round trips between the Earth and Mars.

The many benefits of development, the improved transport and communications networks, increasing literacy rates and expansion of the education system; improved health care and reduced infant mortality, to name a few, have been accompanied by some almost inevitable environmental costs.

In the pre-oil days the ability of humans to have an impact on natural resources was limited by relatively low population densities, modest economic means, and a widespread dependence on subsistence agriculture, including nomadism – an efficient means of exploiting fugitive and seasonally fluctuating plant resources. An increasing human population¹ and an objective of national self-sufficiency in food production has combined with increasing demand for sheep and goat meat and for crop plants. With greater wealth subsistence agricultural systems can be freed from dependence on variation in annual rainfall. The tapping of non-renewable fossil water stores has allowed expansion of wheat growing; in 1989 the Kingdom produced 3.3 million tonnes of wheat. In response to the 1950 drought and consequent reduction in livestock numbers (>85% livestock losses in some regions), tribal lands were opened to free grazing by Royal decree in 1953. Breakdown of traditional systems of resource conservation opened the way for a 'tragedy of the commons', whereby 'individuals using a common resource are encouraged to over-exploit it because the costs of doing so are shared by the whole community, while they alone reap the benefits' (Child and Grainger 1990). This, together with the

¹ Recent figures give a total population of around 23 million, comprising 16 million nationals and some 7 million resident expatriates.

availability of supplementary feeds, water trucks and the ability to truck livestock to areas receiving recent rain, increased herd numbers far beyond the ability of the desert vegetation to support them.

Overgrazing in combination with fuel wood gathering and, to a lesser extent the loss of natural vegetation to cultivation and recreation, has threatened both wildlife and rural productivity. Surveys of the Kingdom's rangelands in the 1970s showed that 85% were in a severely degraded state. More recently it has been estimated that over 30% of grazing lands, and 75% of the country is seriously eroded due to impoverishment of the natural vegetation². On top of this, the prevalence of all-terrain vehicles and automatic weapons has seen unregulated hunting expand into once remote and inaccessible areas. During last century a number of native species have become extinct, including: Asiatic cheetah *Acinonyx jubatus* (locally extinct 1950s); Arabian ostrich *Struthio camelus syriacus* (totally extinct 1950s); Arabian oryx (extinct in the wild 1970s); or suffered declines in both breeding populations and range, such as Nubian ibex *Capra ibex nubiana*; Arabian leopard *Panthera pardus nimr*; houbara bustard *Chlamydotis [undulata] macqueenii*; sand gazelle *Gazella subgutturosa*, and mountain gazelle *Gazella gazella*.

A recent history of wildlife conservation in Saudi Arabia

Islamic law (Shari'ah) firmly establishes the principles of human stewardship over shared natural resources; acknowledges the direct and indirect benefits provided by wildlife, and grants rights to all living creatures (Bagader *et al.* 1994). Such principles were subsumed within early tribal land management systems, at least as far back as the time of the Prophet Muhammad (Llewellyn 1998), in which provisions were made for the protection and conservation of plant resources through the creation of fallow lands and specified use areas (*bima*) (Grainger and Llewellyn 1994). Despite the breakdown of tribal grazing lands in the 1950s, a few *bimas* in south-western Saudi Arabia continue to be respected locally, and are maintained under five types: no grazing; grazing and cutting permitted; year-round grazing; beekeeping; forest protection (Draz 1969).

Within modern Saudi Arabia responsibility for wildlife conservation has fallen within the remit of a number of government agencies, primary among these have been the Ministry of Agriculture and Water (MAW), the Meteorological and Environmental Protection Administration (MEPA), and the National Commission for Wildlife Conservation and Development (NCWCD). The role of the NCWCD is considered below.

The NCWCD was created by Royal Decree in 1986 to: 'Develop and implement plans to preserve wildlife in its natural ecology and to propose the establishment of proper protected areas and reserves for wildlife in the Kingdom.' (Article 3 [4] of Royal Decree No. M/22). The term wildlife covers all indigenous wild plants and animals

² With the removal of government subsidies for supplementary food, and a desire for access to schools there has been a shift from true nomadism to semi-settled livestock herding. Small holdings are becoming less profitable and fewer young people wish to tend herds. It is possible that the next few decades will see a decline in livestock numbers, increased use of imported meat protein, and possibly, an improvement in natural vegetative cover.

and their habitats (Child and Grainger 1990). By necessity some of the NCWCD's first major projects focused on the protection and restoration of high profile animal species such as the houbara bustard and the Arabian oryx. By initiating projects for the captive-breeding and reintroduction of 'flagship' quarry species with the potential for future sustainable use the NCWCD has sought gradually to gain popular support for other, less spectacular but equally fundamental conservation programmes.

From the beginning the NCWCD recognised that the conservation of representative portions of the Kingdom's major habitats would be essential for the protection of not only key species, but entire communities of plants and animals (Büttiker and Grainger 1989). The foundation of the NCWCD approach has been the creation of a large network of protected areas and the management of these areas in such a way as to fulfil the NCWCD mandate to preserve, conserve, but also to develop the nation's wildlife (Abuzinada *et al.* 1992).

The NCWCD's System Plan for Protected Areas attempts to draw on the cultural precedents of the traditional *bima* system (Grainger and Llewellyn 1994), and compiles information from earlier surveys by other government agencies to list a total of 103 candidate protected areas, covering a total of over 170,000 km², or 8.1% of the Kingdom (Child and Grainger 1990). It was initially planned that up to 10 new sites would be declared annually during the first decade of NCWCD operations. Lack of inter-agency cooperation and failure to gain public support in the face of a preservationist approach meant that by 1999 a total of only 13 protected areas, plus botanical reserves/sanctuaries in three NCWCD field research centres had been formally decreed (Figure 1).

Recent trends in the management of protected areas in Saudi Arabia: a tale of four reserves.

Protected areas cannot be managed in isolation from their surroundings...especially in arid ecosystems in which both resources and resource users have strongly fugitive properties. Graham Child and John Grainger (1990).

In the early stages of establishing its protected area network the NCWCD followed a policy of strict protection, excluding all tended livestock and restricting human access to enable the overgrazed landscapes to recover. It is possible to examine the NCWCD's changing approach to protected area creation and management by comparing four sites: Al-Khunfah, Mahazat as-Sayd, 'Uruq Bani Ma'arid, and Umm ar-Rimth. This section has been developed from the ideas presented in Seddon *et al.* (1999).

Al Khunfah protected area

The Al-Khunfa protected area was declared in 1988 to protect the then largest population of sand gazelle in Saudi Arabia, and to conserve a large tract of sandy gravel plain bordering the western edge of the Great Nafud (Child and Grainger 1990). Because of its vast size only 8000 km² of Al-Khunfah's 20,000 km² are patrolled by a force of rangers based in ground camps, and by light aircraft (Figure 2). Patrols are intended to enforce this core zone's Special Natural Reserve status, the strictest level of protection assigned by the NCWCD. Under SNR status all hunting of wildlife and all grazing by domestic livestock is forbidden, no dwelling sites, whether

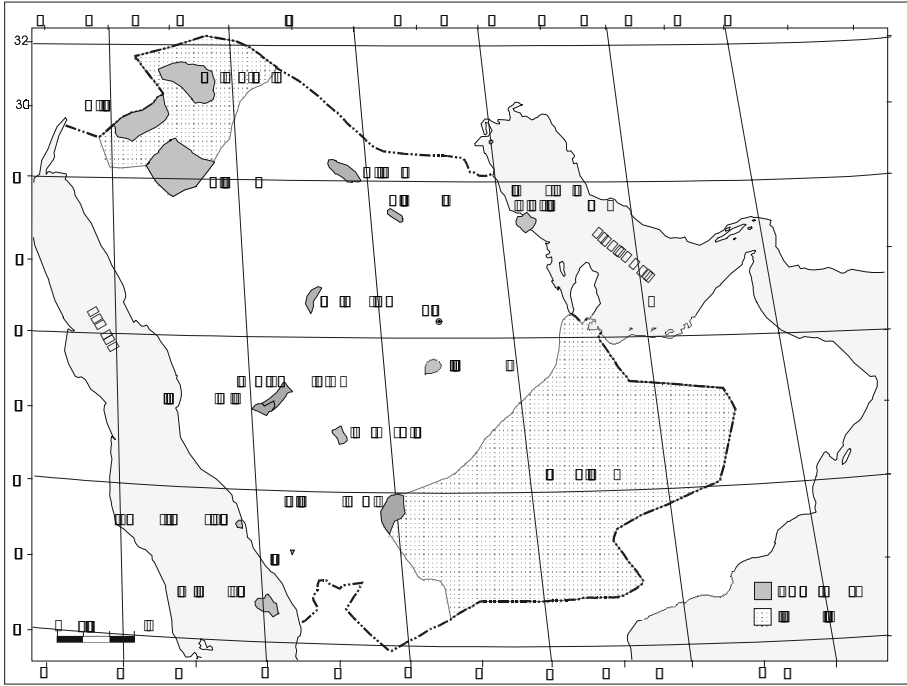


Figure 1. Current network of NCWCD wildlife protected areas in Saudi Arabia.

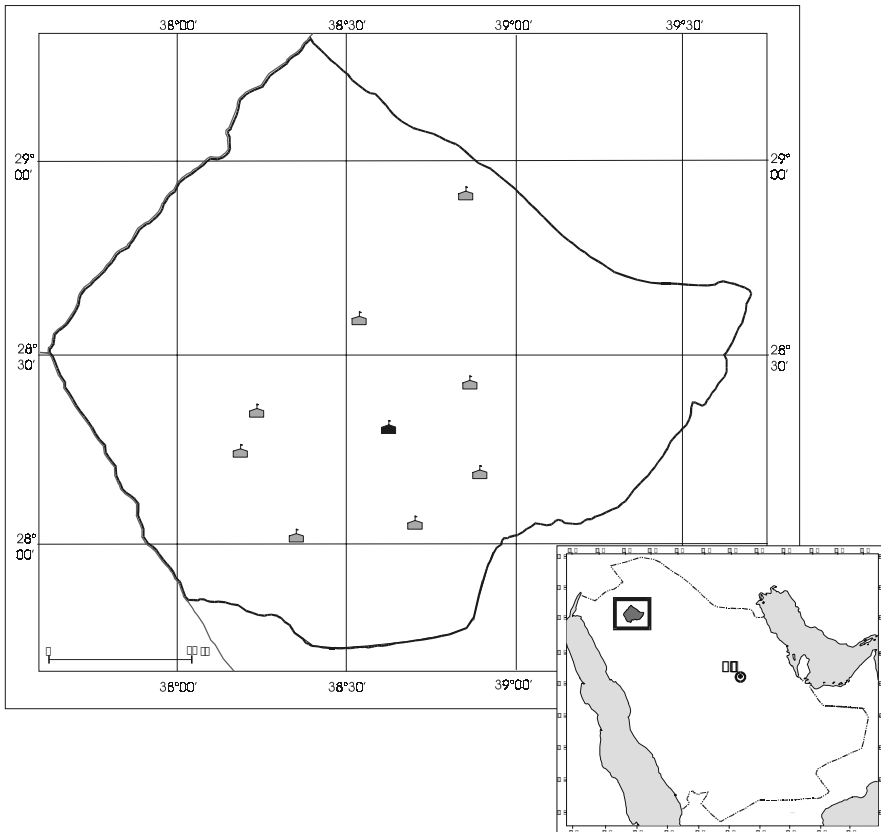


Figure 2. Al-Khunfah protected area, showing position of ranger camps around the core zone. A ditch and dike barrier has been constructed along parts of the southern and western boundaries of the protected area.

permanent or temporary are permitted, and access to the area is by permit only. The area was designated and is managed with negligible involvement from the surrounding local communities, many of whom have effectively lost traditional grazing lands. Consequently, gazelles are threatened by poaching, facilitated by easy access to the area from major highways. The NCWCD's initial response to incursions was to construct a large dike and ditch barrier along the southern and part of the western boundaries to the core zone. A similar approach has been used for the same reasons in the 12,150 km² Harrat al-Harrah protected area to the north of Al-Khunfa. Poaching still takes place and the Al-Khunfa gazelle population is believed to have declined (Wacher 1995).

Mahazat as-Sayd protected area

The Mahazat as-Sayd protected area was also declared in 1988, with a little over 2200 km² being placed under SNR designation (Seddon 1996). The area was intended from the beginning to be a reintroduction site for Arabian oryx, houbara bustard, and gazelles. It was felt at the time that the only sure way of enforcing the SNR status was to fence the area. Mahazat as-Sayd was surrounded by a barbed wire-topped mesh-link fence in 1989 (Figure 3). The fence is patrolled daily by NCWCD rangers. Once again general public access is prohibited, and community involvement in reserve management is negligible, although in the last five years the ranger force has been made up of locals. There have been no instances of poaching and only a handful of illegal entries in the last ten years. The important difference between Al-Khunfa and Mahazat as-Sayd is that Mahazat as-Sayd is fenced and is thus able to maintain its strict protection status with minimal enforcement effort, and minimal benefit to traditional stakeholders.

'Uruq Bani Ma'arid protected area

By the time the 'Uruq Bani Ma'arid protected area was established on the western edge of the 'Rub al-Khali in 1994 the fencing of huge protected areas was no longer an economically nor politically feasible, so in order to start to incorporate local community needs into the process of protected area management, the NCWCD adopted a new approach. The approximately 12,000 km² area was divided into three zones (Figure 4): a 2400 km² core protected zone, a 5500 km² surrounding managed grazing zone, and a controlled hunting zone of over 4000 km² (Bothma and Strauss 1996). This created in effect a multiple resource use site. The core zone has been designated a Natural Reserve, which allows for greater public access than an SNR. Transit of livestock is permitted through the core zone so that seasonal access to central grazing areas is not hindered (Sulayem *et al.* 1997). In addition the NCWCD has sought to consult with and involve local tribal groups in the monitoring of released oryx. A large proportion of the rangers employed in the reserve are from local communities, enabling the NCWCD to make full use of their excellent tracking skills and local knowledge. Consequently, without the need for fences, the area has sustained good public support.

Umm ar-Rimth

The nearly 6000 km² Umm ar-Rimth protected area³ was declared in 1996, but to date has no formal structures or mechanisms in place. The area was chosen as a new

³ The area is variously known as Umm ar-Rimth (Mother of *Haloxylon salicornicum*), Saja, and Al-Hmar, depending on the exact area being referred to; I have simplified matters by using the name Umm ar-Rimth to refer to the entire area.

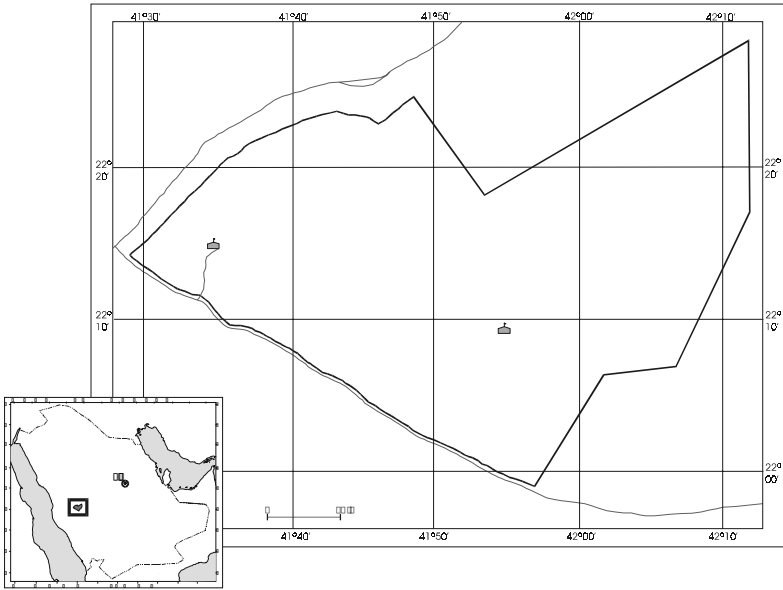


Figure 3. Mahazat as-Sayd protected area. The perimeter of the area is delimited with a 2 m barbed-wire-topped fence.

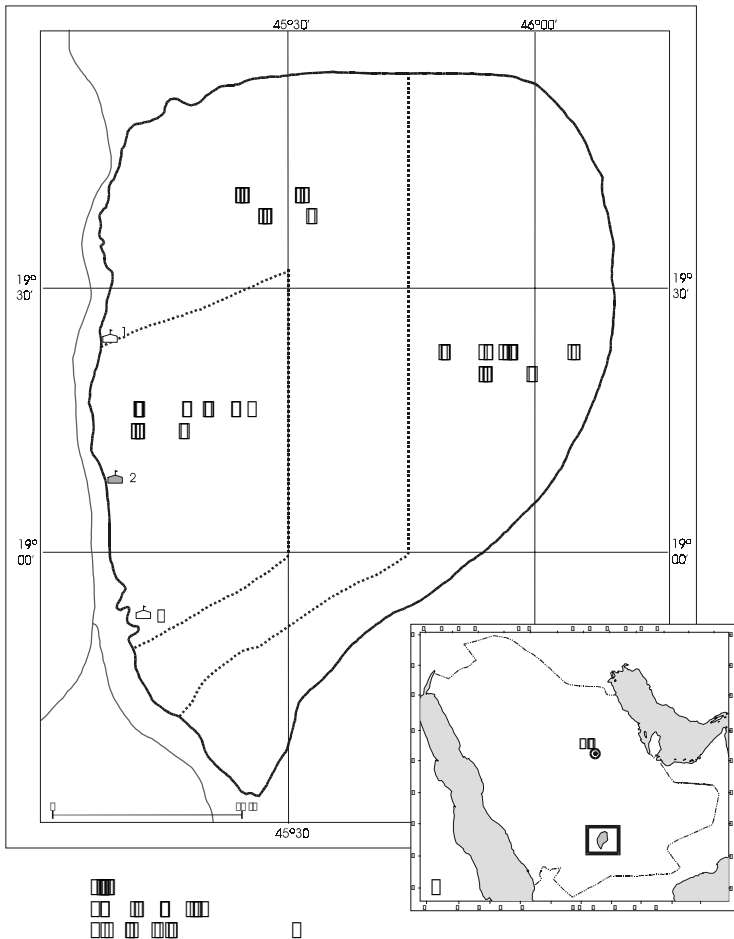
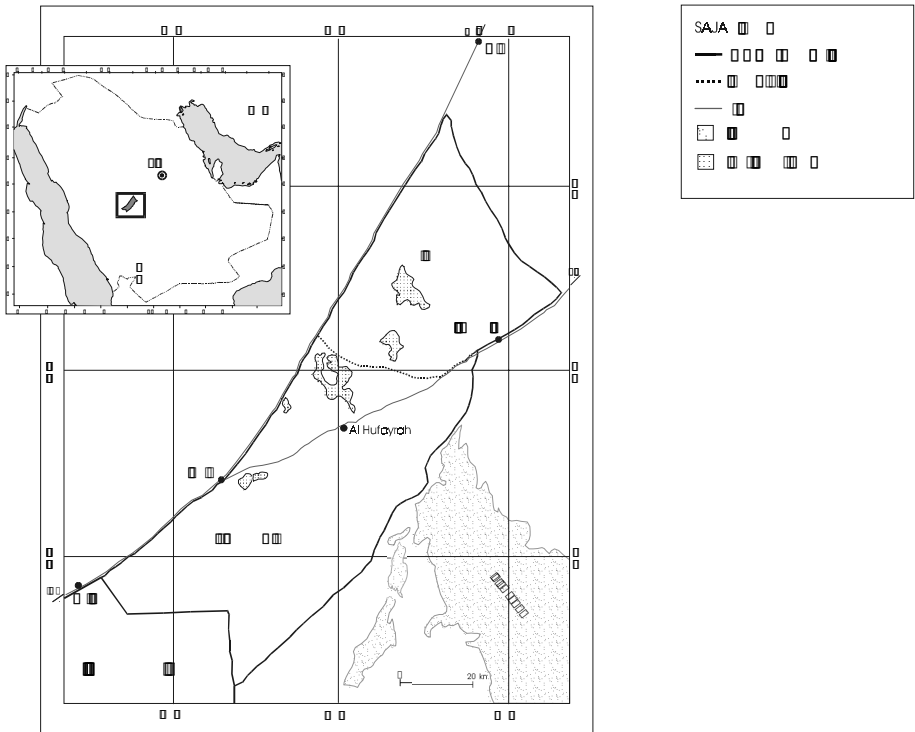


Figure 4. 'Uruq Bani Ma'arid protected area, showing the core zone, the managed grazing zone (resource use reserve) and the controlled hunting zone.

Figure 5. Umm ar-Rimth protected area.



reintroduction site for houbara bustards, and plans are underway to identify a suitable release site for houbara. This would amount to 10% of the total area and would be designated a SNR with restricted public access due to the vulnerability of any re-established houbara population. In recognition of the problems facing the preservationist management of NCWCD protected areas (Zaghloul and Al-Masoudi 1999) the remainder of the area would be a Resource Use Reserve, jointly managed by local communities and the NCWCD with the aim of developing livestock herding practises that would improve grazing efficiency and permit some recovery of natural vegetation. For the first time the NCWCD is seeking the advice, cooperation and approval of local tribal leaders before any formal management decisions are taken for the area. The aim is to understand and fulfil the needs of the traditional stakeholders in as environmentally friendly manner as possible.

Trends in protected area management in Saudi Arabia

Five trends in the NCWCD approach to protected area management may be discerned:

- increased consultation with local communities;
- increased use of the Resource Use Reserve zones;
- increased employment of local people as rangers;
- increased contact between rangers and local communities;
- decreased application of strict Special Natural Reserve zones.

The NCWCD has taken the first, necessary steps to public and community involvement in protected areas. However, it is as yet unproven that any kind of regulated grazing management is feasible or compatible with ecosystem recovery;

the restoration of the larger mammal species remains problematic in areas lacking natural geographic boundaries without improved public attitudes and support; there are still no effective mechanisms for regulated public access to protected sites, and as yet few tangible benefits accrue to communities surrounding the majority of the NCWCD protected areas.

One area that holds some potential for addressing these challenges is the development of nature tourism within selected protected areas.

Eco-tourism and protected areas in Saudi Arabia

Protected areas can be especially important for development when they [inter alia] provide income and employment, notably from tourism. Caring for the Earth (IUCN et al. 1991).

This rapid expansion [of tourism] represents both a threat to fragile ecosystems and an opportunity for harnessing resources for conservation and community development. Russell Mittermeir, Conservation International (quoted in: Sweeting et al. 1998).

Any way you look at it, as a result of global trends for increasing wealth and leisure time, and decreased travel costs and restrictions (Ceballos-Lascurain 1996), tourism has become a massively expanding industry of global importance. The World Tourism Organisation predicts that in 2000 travel spending will reach U\$4.2 trillion, and by 2010 there will be over 1 billion tourist arrivals per annum. The economic impacts are massive; tourism is now the number one employer, providing jobs for some 230 million people – 10% of the global workforce (World Travel and Tourism Council website). Although the statistics relating to domestic tourism are poor, the evidence suggests that more than 3 billion people travel within their own country each year (Sweeting et al. 1998). No wonder then that many countries, particularly developing nations, are actively encouraging tourism development as a means to create employment and generate foreign currency.

The fastest growing sector of the tourism industry is nature-based tourism; this has been defined as any tourism that is directly dependent on the use of natural resources in a relatively undisturbed state – even if that use is neither wise nor sustainable (Ceballos-Lascurain 1996). In recent years 40–60% of international tourists are estimated to focus their travel on the enjoyment of nature (The Ecotourism Society website).

The concept of ‘ecological tourism’ or ‘ecotourism’ emerged in the early 1980s; defined expansively by the IUCN’s Ecotourism Programme as:

environmentally responsible travel and visitation to relatively undisturbed areas, in order to enjoy and appreciate nature that promotes conservation, has low visitor impact, and provides for beneficially active socio-economic involvement of local populations (Hector Ceballos-Lascurain 1996);

and more succinctly by The Ecotourism Society as:

responsible travel to natural areas that conserves the environment and sustains the well-being of local people (Western 1993).

Ecotourism will focus on the best examples of a country's biological and cultural assets. It's no coincidence then that 'one of the most urgent points of intersection between ecotourism and conservation' (Boo 1993) occurs within protected areas – sites chosen because they are a nation's biological and cultural jewels.

While protected areas may obviously benefit tourism, ecotourism can benefit protected areas through: exposure of the public to the natural world, with opportunities for improved environmental education and awareness, and consequently increased public support; generation of revenue, with the potential for this to be channelled back into protected area maintenance and management; and the creation of jobs in the region and the promotion of economic development, particularly for local communities (Boo 1993). Does this list sound familiar? It mirrors the challenges facing protected areas under the new management paradigm of sustainable development.

So, is that the answer? Will ecotourism solve the problems facing Saudi Arabia's protected areas? It's not quite that simple. Protected areas are inherently sensitive sites; increased visitor levels will have an inevitable impact at a number of levels. Such impacts may be direct, arising from the presence of the tourists, or indirect, due to the infrastructure supporting the industry (Ceballos-Lascurain 1996). These negative impacts can lead to environmental degradation, economic inequity, and sociological change (reviewed in Boo 1990; Ceballos-Lascurain 1996; Roe *et al.* 1997; and references therein).

Negative impacts on protected areas will be exacerbated where the park or reserve lacks funds, lacks staff, lacks expertise, and is therefore unable to harness benefits for the protected area or for local communities. The message is simple: protected areas must specifically plan for ecotourism.

The development of true eco-tourism centred on carefully selected protected area would be in keeping with the directions being taken by the NCWCD, and could be compatible with local expectations as well as a valuable means of educating the general public and gaining their support.

An NCWCD study was started in 1999 to assess the potential role of ecotourism in the management of protected areas in Saudi Arabia, with the aim of formulating a strategy for protected area tourism development that takes into account public attitudes to wildlife; the need to form partnerships with both the private sector and with local communities; the state of the domestic tourist industry, and the potential for international tourism, particularly in conjunction with pilgrim visits for the Hajj. The key will be for the NCWCD to become a leader in setting best practise guidelines for nature tourism in Saudi Arabia, both within formally designated protected areas, and within other natural areas subject to less well regulated human use.

Acknowledgements

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The protected areas project in Lebanon: conserving an ancient heritage

FAISAL ABU-IZZEDDIN

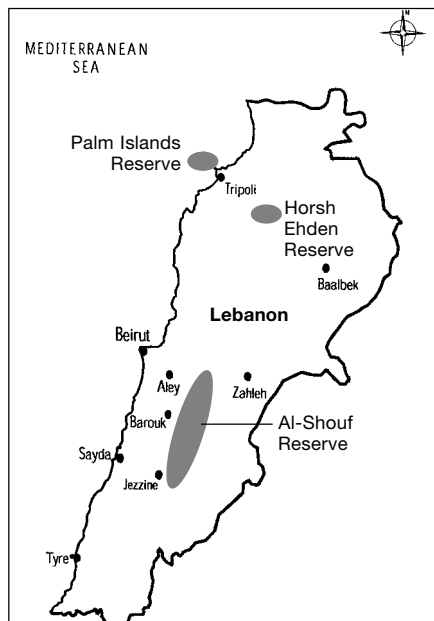
Lebanon is located on the eastern shores of the Mediterranean Sea. Despite its small size of 10,415 km², Lebanon is universally known for its remnant cedar *Cedrus libani* forests. The history of over-exploitation of its native flora and fauna is documented in ancient inscriptions and texts that go back over 5000 years.

The urgent need in Lebanon today is to conserve the remaining forest and marine habitats and to maintain the ecological balance of its natural ecosystems. Towards that end the Protected Areas Project began its work on 15 November 1996 thanks to a US\$ 2.5 million grant from the Global Environment Facility (GEF) through the United Nations Development Programme (UNDP). The project is being implemented by the Lebanese Ministry of Environment (MOE) in active partnership with local non-governmental organisations (NGOs) and scientific institutions under the technical guidance of the World Conservation Union (IUCN).

The Protected Areas Project has put into place an effectively managed system of three model nature reserves to safeguard endemic and endangered species of plants and animals, conserve their habitats, incorporate biodiversity conservation as an integral part of sustainable human development, promote the short-term and long-term ecological and economic objectives of biodiversity conservation, and encourage national reconciliation by bringing people and institutions together for the conservation of nature.

CENTURIES AGO Mount Lebanon was carpeted with a rich stand of cedar *Cedrus libani*, pine *Pinus brutia*, oak *Quercus calliprinus*, juniper *Juniperus excelsa* and fir *Abies cilicica* to name a few. It is a documented fact that from about 5000 years ago everyone wanted the prized wood of the stately cedars, pines and firs beginning with the Sumerians, Assyrians, Babylonians, Pharaohs of Egypt and King Solomon.

The Sumerian Epic of Gilgamesh devoted an entire section to the cedar forests of Lebanon in which it described the vast size of the forest and the grand stature of its trees. It also told how Gilgamesh the King had to kill the supernatural monster Humbaba who was the protector of the cedar forest. In a moving scene, before Humbaba is slain, he begs Gilgamesh to spare him and preserve the forest. Unfortunately both Humbaba and the forest were sacrificed – as it turns out to satisfy an economic



imperative. The growing human populations of the city states of Mesopotamia were all in dire need of wood for their temples and palaces, and the forests of Lebanon were within their reach.

The Old Testament also abounds with references to the majestic forests of Lebanon. When King Solomon decided to build his famous temple in Jerusalem, he sent a written appeal to King Hiram of Tyre. Hiram agreed to help, and under his supervision, Solomon sent three groups of ten thousand men each to Lebanon to fell the cedar and fir trees. Hiram then arranged to convey them by sea in floats to Palestine. In payment Solomon sent grain, olive oil and gold to Hiram.

Also transported by sea was the cedar wood taken by the Pharaohs of Egypt to build their ships and palaces, and to furnish their ornate royal burial chambers. The cedars of Lebanon also provided some of the largest beams in the Achaeminid King's great palace at Persepolis, a thousand miles away across Mesopotamia. It was a great feat of engineering and manpower to get those cedar beams delivered by land.

It is reported that the Roman Emperor Hadrian (117–138 AD), during an inspection of the eastern parts of the Roman Empire, just under 2000 years ago, was so shocked by the destruction of the Lebanese forests, especially the cedars and pines, that he ordered about 200 rock inscriptions be placed around the surviving forests designating them as Imperial Domain. His inscribed command can be considered as one of the first nature conservation laws in the history of mankind.

Despite the efforts of Emperor Hadrian, by the 12th century deforestation had already gone so far in Lebanon that roof beams for big buildings were very hard to come by. As a result the Crusaders had to build their rooms with stone vaulting, which were of course much heavier than those with wood beams, so their castles could never be built as high as those in Europe.

From the middle of the 19th century onwards a new trend began to take hold. The hills around Beirut, the capital of Lebanon, were planted with the stone or umbrella pine primarily for their yield of valuable pine nuts which for over the past 150 years provided a handsome income to countless farmers and landowners in

Mount Lebanon. In addition to nuts and harvestable wood, these pine forests provided the sweet scent and cool shade that attracted tourists, Lebanese and foreigners alike, to the mountains each summer. There the visitors found a respite from the heat of the desert, the humidity of coastal areas and the noxious fumes of city air. This allowed the local villagers to enjoy a new source of income by renting their houses and selling agricultural produce to the growing number of summer residents. Unfortunately, these pine forests were partly destroyed by the ravages of the Lebanese civil war (1974–1990), and are currently under the mercy of construction pressures.

The words of Eric Eckholm, a contemporary writer, sum up the

Cedrus libani cones
in Al-Shouf Cedars
Nature Reserve,
Lebanon, 1998.
Photo: Faisal Abu-
Izzeddin.



devastation witnessed by the forests of Lebanon over the ages: “five thousand years of service to civilisation has left the Lebanese highlands a permanently degraded vestige of their former glory”!

Genesis of a conservation project

Beginning in the early 1970s a small group of concerned citizens, NGOs, and members of the scientific community stepped forward and began to defend conservation as an integral part of development.

They believed in providing a series of positive experiences in the field of conservation to awaken the interest of the public and private sectors. Their message was clear: the reconstruction of Lebanon is vital but not if it destroys the environment which constitutes the basic infrastructure of the country.

Thanks to the pressure from these various groups, and the desire of international donors to finance nature conservation projects, the Global Environment Facility (GEF) and the United Nations Development Programme (UNDP) commissioned the World Conservation Union (IUCN) to prepare a project proposal in 1993 that would assist Lebanon with the establishment of a system of protected areas to conserve biodiversity. In addition the project would strengthen national capacity within the Ministry of Environment (MOE), non-governmental organisations (NGOs) and scientific organisations to conserve and manage a biological heritage that in essence belongs not only to Lebanon but to the world.

After due consultation with all the parties concerned the project proposal for the establishment of a system of protected areas in Lebanon was approved for funding by the GEF Council in 1995 and signed by the Government of Lebanon on 8 February 1996. The project was placed under the direct supervision of the Ministry of Environment which would draw on the administrative support of UNDP and the technical and scientific experience of IUCN to ensure sound implementation.

Strengthening of national capacity and grassroots in-situ conservation for sustainable development (LEB/ 95/G31/A/1G/99)

The official title of the project was abbreviated to “Protected Areas Project”, and it commenced operating on 15 November 1996.

During the first three years of implementation (1996 to 1999) the project accomplished its main objectives of putting in place three well managed demonstration protected areas, namely Al-Shouf Cedar Nature Reserve, Horsh Ehden Nature Reserve and the Palm Islands Nature Reserve; of safeguarding endemic and endangered species of flora and fauna by conserving their habitats; of incorporating biodiversity conservation as an integral part of sustainable human development; of illustrating the short-term and long-term ecological and economic objectives of biodiversity conservation; of introducing educational and sensitisation components directed towards local communities and decision makers; and of promoting national reconciliation by bringing people and institutions together to work for the conservation of nature.

These nature reserves are, according to Law 121 (dated 9 March 1992) that established Horsh Ehden and the Palm Islands Nature Reserves, and Law 532 (dated 24 July 1996) that established Al-Shouf Cedar Nature Reserve, the responsibility of the Lebanese Ministry of Environment. However, as stipulated in the Project

Document, the above mentioned nature reserves were to be managed by three local NGOs according to terms spelled out in the annual contracts they sign with the project. Similarly, contracts were also signed with a number of other environmental NGOs and scientific institutions to provide the project with field studies, monitoring programmes, educational materials, and video presentations for awareness campaigns.

The principle responsibility of IUCN, through the Project Manager, is to make sure that all contracts are prepared and implemented, payments for contracted services are disbursed on time, and that the level of management in the reserves is up to recognised international standards. IUCN has also provided an on-going technical back-up to all the different project activities.

Al-Shouf Cedar Nature Reserve represents a mountain ecosystem of the central Mount Lebanon chain covering an area of about 500 km². Its altitude varies from 1200 to 1900 metres and is made up of a series of peaks parallel to the sea. Al-Shouf is the southern-most limit of the cedar of Lebanon and despite the summer heat and dryness of the area, these trees have adapted by sending down deep roots. According to a survey commissioned by the MOE, the flora of the area is represented by about 425 species that include a wide variety of trees, shrubs, grasses and herbs.

Al-Shouf Cedar Nature Reserve is one of the last remaining areas in Lebanon where larger mammals that once roamed the region can be found such as the wild boar *Sus scrofa lybicus*, wolf *Canis lupes pallipes*, hyena *Hyaena hyaena syriaca*, and wild cat *Felis silvestris tristram*. A few gazelle have been sighted but their identification has not yet been determined and are believed to be immigrants from neighbouring areas. The reserve is considered to be ideal for reintroduction of some locally extinct species.

About 123 species of birds have been recorded representing a third of Lebanon's birds. A wildlife feature of special note is that Al-Shouf Cedar Nature Reserve is on a major migratory bird corridor between Africa and Europe/Asia. An impressive number of birds use this protected area as a resting spot during their annual migrations such as the white stork *Ciconia ciconia*, the imperial eagle *Aquila beliaca*, and the corncrake *Crex crex*. The reserve is an excellent location for observing these spectacular annual migrations.

Horsh Ehdén Nature Reserve represents a mountain ecosystem of the northern Mount Lebanon chain (1300–1950 metres) covering an area of about 10 km² and located 3.5 km from the summer resort of Ehdén. It has one of the larger stands of the native cedar of Lebanon with thousands of trees of elegant stature. Mixed in with the cedars are pines, oaks, junipers, maple *Acer tauricum*, wild apple *Malus trilobata* and wild plum *Prunus ursina*.

Horsh Ehdén is a sanctuary for resident and migratory birds, spring and summer breeders and winter visitors. Many are endangered. Several new species of birds were identified in 1998 bringing the number of species of birds observed in Horsh Ehdén to 143 which includes the rare and threatened Bonelli's eagle *Hieraetus fasciatus*.

Horsh Ehdén also has many of the surviving and threatened native mammals, and is home to a variety of reptiles and amphibians.

Palm Islands Nature Reserve represents an eastern Mediterranean marine island ecosystem and is made up of the Palm, Sanani and Ramkine islands. The islands and surrounding water constitutes a natural marine basin with a surface area of 5 km² and lie 5.5 km north-west of the city of Tripoli forming an integrated marine unit close to the shoreline.

In fact these are the only islands off the coast of Lebanon.

Numerous species of birds frequent the islands for spring-summer nesting sites, as well as a stop over for migrating species of water birds and raptors. A complete study of the birds of the Palm Islands was conducted in 1998 and recorded 156 species such as the white-tailed eagle *Haliaeetus albicollis*, Audouin's gull *Larus audouinii*, and the dalmation pelican *Pelecanus crispus* that visit the islands for winter nesting and resting. This gives the islands an international significance.

The sand beaches of the islands are egg laying sites for sea turtles, particularly the loggerhead *Caretta caretta* with 32 confirmed nests in 1999 and the green turtle *Chylonia mydas* with no confirmed nests to date. The islands now teem with wild flowers after the removal of hundreds of introduced rabbits.

The NGO partners in the protected areas project

■ The Al-Shouf Cedar Society (ACS) is the NGO that manages the Al-Shouf Cedar Nature Reserve and it has shown a seriousness of purpose in fulfilling its duties by establishing links with all the municipal councils in the Shouf region, reaching out to the public through its awareness centres and initiating contact with farmers, businesses, hotel and restaurant operators. The ACS has also shown a willingness to depend on itself by soliciting funds from donors and increasing their income in 1998/99 by US\$ 193,900 thereby serving as an example to the other protected areas;

■ the Friends of Horsh Ehden (FOHE) is the NGO that manages the Horsh Ehden Nature Reserve and after initial organisational difficulties it elected a new Executive Committee in May 1998 and worked hard to increase the efficiency of the management team. New signs have been put up in the reserve and plans for two entrances to the reserve have been prepared;

■ the Environment Protection Committee (EPC) is the NGO that manages the Palm Islands Nature Reserve and they have shown a marked improvement in rehabilitating and preparing the Palm Islands for visitors according to a landscape design prepared by local consultants. The completion of a walking trail on the main island was achieved prior to opening the islands for visitors during the summer of 1999;

■ Green Line (GL), an environmental NGO, commenced their monitoring program of selected species of flora and fauna in the three reserves in 1998, conducted GIS training courses, and held the first basic biological diversity monitoring course on flora in the reserves. A second course on fauna is planned for 1999;

■ Friends of Nature (FON), an environmental NGO, produced a collection of attractive colour slides highlighting the physical features, flora and fauna of Al-Shouf Cedars, Horsh Ehden, and Palm Islands Nature Reserves – along with training booklets that accompany and explain the slides;

■ the Society for Protection of Nature in Lebanon (SPNL), an environmental NGO, has produced excellent 15 minute video

*First Protected Area Management Training Workshop, Lebanon, 1997.
Photo: Faisal Abu-Izzeddin.*



introduction to each nature reserve and nine 30 second television spots relating to nature conservation for national awareness campaigns;

- the Lebanese National Council for Scientific Research (NCSR), which is not an NGO but an official national scientific body, is conducting the Field Studies components of the project and their lists of flora and fauna of each reserve will be published in the year 2000.

Lessons drawn from the project

A number of important lessons were gained in the day to day management of the Protected Areas Project which had no precedent in Lebanon and where all the activities had to start from the ground up. The most significant lessons learned:

- exposing all the participants in the project to new disciplines and techniques resulted in a marked increase in their management ability. A good example is the performance of the Nature Reserves Unit of the Lebanese Ministry of Environment which assumed responsibility for the management of the project in three short years – a record time by any standard;

- the most direct and cost effective means of conserving biodiversity in Lebanon is through the establishment of nature reserves and the in-situ management of wildlife. This important lesson should dispel the erroneous attitude in Lebanon that increasing the number of tree nurseries and organising planting campaigns are all that is required for re-establishing the vegetative cover of the natural landscape;

- the most effective format for formulating policies and resolving problems encountered in managing protected areas are the Project Coordinating Committee meetings (PCCs) which are held once every two months and the Managers Meetings (Mms) which are held once a week. Even though it is difficult and time-consuming to coordinate 10 different partners implementing 30 activities, the actual process of trying to reach a consensus on most issues is an extremely important step in the capacity building process;

- management plans are an indispensable tool for pooling information, determining objectives, formulating policies and focusing on activities for each individual protected area;

- landscape plans with guidelines and cost estimates are essential tools that guide the physical development of each nature reserve and for soliciting donations as shown

by the success of the Al-Shouf Cedar Society. The lack of fund raising activities by the management of some NGOs resulted in the delay of important work in the nature reserves managed by them;

- even though some of the partner NGOs in Lebanon are experiencing organisational and administrative difficulties in the execution of their contracted duties to the project, they are learning to organise their internal affairs and enlarge their membership base to include more professionals;

- demarcation of boundaries and land-use planning in and around protected

*Cedars and oaks,
Al-Shouf Nature
Reserve, Lebanon,
1998. Photo:
Faisal Abu-Izzeddin.*



areas is a very time consuming activity that needs to be planned ahead, coordinated with various government agencies, and adequately financed in future proposals for protected areas;

- even though the Protected Areas Project was over-ambitious in its goals and under-estimated the time it needs to implement them the staff associated with the project adapted themselves quickly to the new challenges of protected area management in Lebanon.



Tripartite Review Meeting, Protected Area Project, 1999. Photo: Faisal Abu-Izzeddin.

The project as a model for Lebanon and the region

The project is a model for the future management of protected areas in Lebanon and the Middle East region because it has:

- brought together a large number of official partner organisations and scores of individuals to work together to implement all the project activities. In fact not many developing nations have established a working relationship between Government agencies and non-governmental organisations in the field of protected area management and at the same time promoted decentralisation of operations;
- improved communication with local municipalities, researchers, and individual stakeholders, and in doing so was instrumental in fostering a greater respect for nature conservation and increased cooperation between the stakeholders;
- stimulated the establishment of four new nature reserves by the Lebanese Parliament in 1998 and 1999, in addition to the three existing reserves of Al-Shouf, Ehden and Palm Islands. The four new protected areas are the sandy beach in Tyre, the pine forest of Bentaël, the lake of Yammouni, and cedar forest of Tannourin;
- promoted a better understanding of the effectiveness of in-situ conservation through the dramatic increase of the flora and fauna in the three nature reserves of Al-Shouf, Ehden and Palm Islands during 1997, 1998 and 1999. This increase is expected to have a significant impact at both the national and regional levels;
- improved the capability of the permanent staff in the Nature Reserves Unit of the Ministry of Environment to oversee and monitor protected areas;
- improved the capability of the 23 full time NGO staff of Al-Shouf Cedar Society, Friends of Horsh Ehden, and Environment Protection Committee to manage the nature reserves;
- improved the capability of scores of researchers and members of the National Council for Scientific Research, Green Line, Friends of Nature and Society for Protection of Nature in Lebanon to study, monitor and document the flora and fauna of existing and future nature reserves;
- promoted management planning through the preparation of the first draft management plans for the Al-Shouf, Horsh Ehden and Palm Islands Nature Reserves that were distributed to all the PCC members in March 1999. The management teams of the reserves played an important role in the preparation of the plans by providing scientific data as well as helping to formulate the objectives, policies and activities needed;

- mobilised financial donations by introducing donors to the three nature reserves through organised site visits and the distribution of management and landscape plans;
- promoted national reconciliation which is an important component of the Protected Areas Project. It is a difficult parameter to measure when considered on its own, however its impact can be estimated by measuring the progress of a number of project activities such as the number of Lebanese visiting the three nature reserves and the number of Government, Municipal, NGO and scientific institutions working together to tackle issues relating to the proper management of the nature reserves. Based on those parameters, the process of national reconciliation has been enhanced substantially by the project.

Conclusion

This article on the Protected Areas Project in Lebanon began with references to ancient documents, and now it will happily end with a reference to a more recent document. In 1954, after a visit to Lebanon, the Director General of UNESCO, Sir Julian Huxley wrote:

I urged on the authorities [in Lebanon] the desirability of creating a National Park, which should be centred on a real cedar forest. Everyone has heard of the Cedars of Lebanon, and every visitor to the country would want to see a forest of them. But so far as I know, nothing has been done.

Well, as the Protected Areas Project shows, a great deal has been done to conserve not only the cedar forests of Lebanon, but the entire spectrum of fauna and flora in and around the Al-Shouf, Horsh Ehdén and Palm Islands Nature Reserves.

The credit for this belongs to a growing group of dedicated conservationists from Lebanon, men and women alike, who like Humbaba from the Epic of Gilgamesh, are single minded in their efforts to save Lebanon's natural heritage.

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An overview of protected areas in Turkey

M. NIZAM SAVAS

Modern science and technology may have allowed man to reach the moon and deep space, achieving things that would have been considered miracles until very recently, but science does not have the ability to provide new natural resources to replace those that already exist. Therefore it remains of the utmost importance that we prevent destructive attitudes towards the natural values of our Old World, and leave behind us not only the man-made works of civilisation, but also nature itself.

The natural resources of Turkey, crossing between Asia and Europe, have been the source of life for hundreds of millions of people since 9000 BC. Ever since then, people have utilised Anatolia's natural resources, as they have established civilisations, and developed the technology to maintain and improve them. Today, the Turkish people are taking steps to ensure the viable future of their natural resources.

TURKEY occupies a unique geographical and cultural position at the crossroads between Europe and Asia. It is bounded by the Black Sea in the north, the Mediterranean Sea in the south, and the Aegean Sea in the west. It shares land boundaries with Bulgaria and Greece in the north-west, Georgia, Armenia and Azerbaijan in the north-east, Iran in the east, and Iraq and Syria in the south-east. Its status as a secular and modernising republic, with an almost entirely Muslim population, and its historic cultural and linguistic links with the peoples of central Asian and Caucasian counties give it a special geopolitical significance (Fuller *et al.* 1993).

Land and climate

Turkey has a total land area of close to 80 million hectares, about one quarter of which is designated as forest. The topography of the country is extremely varied and contains an unusual diversity of agro-ecological conditions. Mountain ranges run generally parallel to the northern and southern coasts, surrounding the central Anatolian plain, which rises from 500 m elevation in the west to over 2000 m in the east. Soils are also variable, but on gentle slopes they tend to be deep, moderately fertile, and slightly alkaline. On steeper slopes they are usually shallow, rocky and infertile. About 80% of the soils in Turkey suffer from moderate to severe sheet and gully erosion, and most rivers carry heavy sediment loads.

The average rainfall nationwide is about 650 mm, but this average masks large variations, from about 250 mm in the central and south-eastern plateaus to as high as 2500 mm in the north-eastern

*Isikli Wetland,
Denizli. Photo:
M.N.Savas.*



coastal plains and mountains. In the western and southern coastal zones, a subtropical Mediterranean climate predominates, with short mild and wet winters and long, hot, dry summers. Arid and semi-arid continental climates prevail in central regions where winter conditions are often extremely harsh, with frequent and heavy snowfall in the higher parts of the Anatolian plain. On the Black Sea coast, winters are very wet and the summers are mild and humid. The average annual temperature varies between 18–20 degrees Celsius, but drops to 14–18 degrees on the south coast. Local microclimates can vary widely from the regional averages because of the highly variable terrain and exposure to hot and cold winds (OGM 1989).

With 14,300 km² of lakes and rivers, the country has considerable water resources, though a limited storage capacity means that people may experience acute water shortages and droughts in some years (TEF 1993).

Protected areas

Turkey began to establish national parks and similar protected areas in 1956, but not until the late 1980s and early 1990s did the protection and conservation of areas of outstanding natural beauty or interest accelerate: six national parks were established in 1991 alone. The National Parks Law N.2873 calls for a national network of national parks, nature parks, natural monuments, and nature and wildlife reserve areas, extending beyond the overall forestry system.

National parks include areas with nationally and internationally valuable natural and cultural resources as well as areas of high landscape importance. They are managed in accordance with the long-term development plans (master plans) prepared for environmental protection, tourism, and other uses.

The National Parks Law also created new protected area designations such as nature park, natural monument, and nature reserve. The latter is one of the most important designations for protecting the environment and preventing environmental impacts as they are intended for scientific and educational purposes only. Nature reserves cover ecosystems, species, and significant examples of natural phenomena that are likely to disappear, or are vulnerable in any other way, and which therefore need protection. Examples include the unique alluvial ecosystems of Hacı Osman near Samsun on the Black Sea coast, the Kasnak and Iştiranca oak forests of Isparta and Zonguldak, the stands of *Pinus nigrapyramidalis* in the Eskisehir region and the Ebe pine stands near Bolu.

The main objectives of establishing and managing national parks and other protected areas are to create awareness of the natural and cultural environment, to conserve the country's biodiversity, to provide educational and scientific benefits, and to facilitate physical recreation and mental relaxation in a natural environment.

These areas are protected according to firm rules that are designed to ensure that these unique resources are passed on from one generation to the next, as a

Seven Lakes
National Park,
Zonguldak. Photo:
M.N. Savas.



national and global heritage. The status of the resources contained within them is defined, planned and managed by the General Directorate of National Parks, Game and Wildlife (GDNP) according to the principle of maintaining the balance between utilisation and conservation.

At present, Turkey has 32 national parks, 11 nature parks, 32 nature reserves, 119 wildlife reserves and 54 natural monuments. Together, these represent over 700 protected sites covering about 2.5 million hectares (GDNP 1997). The majority of these sites are in the western and northern regions of the country, where they play a significant role in protecting the natural resources and biodiversity of the country, as well as providing recreational facilities and services to some 15 million visitors annually, and contributing to both the national and rural economy.

Yedigöller (Seven Lakes) National Park is notably pristine, and is therefore particularly suitable for the study of natural forest processes in the absence of timber harvesting. Dilek Peninsula National Park provides a good example of a refuge for potentially useful plants growing in forest areas. Certain parks, such as Termessos Park, also contain the ruins of ancient monuments, giving them a special significance in terms of tourism (MOF 1993).

At present, there are 428 Recreation Areas covering some 16,000 ha. It may be noted that this is a very small proportion of the total forest area compared to the European average in this respect.

Wildlife and game management

The hunting estate of Turkey comprises some 72 million hectares composed of forests, rural areas and wetlands, in addition to the protected area system. Activities for the conservation and development of game and wildlife, and controlled and systematic hunting of them, are also undertaken by the GDNP (MOF 1993).

In Turkey, licensed hunting by foreign visitors started with wild boar (*Sus scrofa*) in 1977. In 1981, hunting of wild goats (*Capra aegagrus*) in the Antalya Duzler Pine Grove was opened. They had been protected and thus increased in numbers to a level where careful hunting was sustainable.

Hunting tourism contributes an annual average of \$500,000 to the tourism income of Turkey (MOF 1993). However, this is just the amount collected by the GDNP as hunting charges, and does not include accommodation, meals, travel, or other related expenditure made by visiting hunters.

In recent years, as a result of an increase in industrial plants, the discharge of pollution has had a serious impact on ecosystems. Accordingly, GDNP has started to take steps to restore ecosystems, especially in national parks, nature reserves and game protection areas. At the Kus Cenneti (Bird Paradise) National Park, for example, measures to prevent pollution of the lake are being taken, in a coordinated effort with other organisations, especially local NGOs, with the aim of preventing any decrease in the bird populations using the site.

Table 1. Protected areas of Turkey (GDNP 1997).

| protected areas | number | area (ha.) |
|-------------------------|------------|------------------|
| National Parks | 32 | 649,486 |
| Nature Reserve | 32 | 82,023 |
| Nature Parks | 11 | 46,872 |
| Natural Monuments | 54 | 74 |
| Forest Recreation Sites | 428 | 15,946 |
| Wildlife Reserves | 119 | 1,818,000 |
| Game Breeding Station | 40 | 868 |
| total | 716 | 2,613,269 |

Kus Cenneti (Bird Paradise) National Park was established in 1959. It comprises 52 ha of willow groves and reedbeds on the north-western shore of Bird Lake. The lake is fed by the Sigirci river, that passes through the willow groves and reedbeds, and enters the lake within the national park. Towards the end of winter, the lake water rises and floods the surrounding areas. The flooded willows and reedbeds attract a great number of migratory birds as they provide a rich source of nutrition and a secure environment for breeding. The total number of bird species that visit the national park is 257 (TEF 1993).

Institutional framework

The key national institution involved with national parks and protected areas is the General Directorate of National Parks, Game and Wildlife (GDNP), one of four General Directorates under the Ministry of Forestry. Four departments constitute GDNP, of which the Department of National Parks (DNP), is in charge of the management of protected areas in the country.

Apart from the Ministry of Forestry, the Ministry of Environment is also a major actor in the management of protected areas, specifically through its General Directorate for Environmental Conservation.

There are also a number of NGOs actively involved in activities targeted at biodiversity conservation and improved management of protected areas through research studies and public awareness activities.

Abbreviations

DNP Department of National Parks;
 GDNP Director General of National Parks;
 OGM General Directorate of Forests;
 MOF Turkish Ministry of Forestry;
 NGO Non-Governmental Organisation;
 TEF Turkish Environment Fund.

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Towards an ecotourism programme in the GCC countries

SAEED A. MOHAMMED

Tourism is a very fast-growing industry throughout the whole world. The mass tourism industry exploded in the 20th century, particularly after the Second World War. By the sixties, a smaller and different type of tourism was emerging - one which was mainly concerned with environment and nature or nature-based tourism. The new alternative sector of this vast industry is known these days as ecotourism. According to IUCN definitions, this type of tourism is defined as: environmentally responsible travel and visitation to relatively undisturbed natural areas, in order to enjoy and appreciate nature. It is a fast-moving process in many countries, where some protected areas and undisturbed sites are being utilised as part of the ecotourism activities.

DURING THE last decade, a large number of protected areas have been established in the six Arab States of the Gulf Cooperative Council (Bahrain, Oman, Saudi Arabia, Qatar and United Arab Emirates). Such protected areas cover diverse ecosystems, some of which are terrestrial, and others of which are either coastal or marine. This paper highlights some of the ways in which Gulf states are encouraging and promoting the idea of introducing ecotourism in the region.

Tourism is considered as a process that allows people to travel for the sake of pleasure and curiosity to discover new places and gain new experience by exploring new areas around the world. For a long time, man has enjoyed monitoring and glimpsing natural phenomena in different parts of the world. Observing wild flowers and watching birds or butterflies are considered as some early activities adopted by nature lovers and natural history enthusiasts. Recently, these kinds of activities are more organised under the various programmes of Ecological Tourism or Ecotourism. This type of tourism can be defined as “environmentally responsible travel and visitation to relatively undisturbed natural areas, in order to enjoy and appreciate nature.” This kind of tourism promotes nature conservation, has low visitor impact and provides for the beneficial, active, socio-economic involvement of local people (Blangy and Wood 1992).

Initiating an ecotourism programme in any area has to be carefully studied and widely assessed before allowing it to take off. However, it is rather important for the people to explore the beauty of

Desert hyacinth.
Photo: Saeed A. Mohammed.





The largest breeding colony of Socotra Cormorant at Hawar Islands. Photo: Saaed A. Mohammed.

nature surrounding them and to encourage a close encounter between the people and the nature components. An important feature of ecotourism is to provide a close encounter between tourists and natural environment. Therefore, protected areas in any country or region can play an important role in the growth of ecotourism. World wide, there are more than 30,000 sites officially designated as protected areas in 130 different countries, and covering an area of around 9% of the planet earth surface (McNeely 1992).

Although ecotourism may rely on protected areas in the country, great care

is required in managing the areas where tourists may be allowed to venture and explore. Normally, only limited activities are permitted outside the core zone of the protected area, where no tourist is allowed.

There are many sites, as well as a large number of wild species, which have the potential to support ecotourism in the region. The area is composed of a high variety of ecosystems and natural habitats both on land and in the sea including:

- open desert areas;
- fresh water natural springs;
- plantation areas;
- salt marsh vegetation;
- mangrove swamps;
- mudflats and sand flats;
- rocky areas;
- coral reefs;
- seagrass beds;
- remote islands.

Equally, for each of these ecosystems and habitats there are thousands of terrestrial and marine species of flora and fauna (Mohammed *et al.* 1995). Some are endemic species while others are globally important as endangered or vulnerable species (e.g. Arabian Oryx *Oryx leucoryx*, Arabian Leopard *Panthera pardus*, Arabian Tahr *Hemitragus jayakari*, Sand Gazelle *Gazella subgutturosa*, Sea Dugong *Dugong dugong*, Houbara Bustard *Chlamydotis undulata*, Sooty Falcon *Falco concolor*, Socotra Cormorant *Phalacrocorax nigrogularis*, Green Turtle *Chelonia mydas*).

The GCC countries have taken two main positive actions in the last decade:

1. Ratify the following conventions:
 - Kuwait regional convention for cooperation on the protection of the marine environment from pollution;
 - Ramsar Convention;
 - Biodiversity Convention;
 - Bonn Convention;
 - CITES.

2. Establishment of a protected area system, which includes 42 different protected areas to date, covering a variety of terrestrial and marine ecosystems.

List of protected areas in the six GCC countries:

Bahrain

- Al-Areen Wildlife Sanctuary;
- Hawar Islands;
- Sanad Mangrove Reserve, Tubli Bay.

Kuwait

- Al-Doha Reserve;
- Al-Jahra Reserve;
- Jal az-Zor National Park;
- Sulaybia Experimental Station.

Oman

- Al-Dimaniat Islands Reserve;
- Al-Salil Garden Natural Reserve;
- Arabian Oryx Reserve;
- Arabian Tahr Reserve;
- Jabal Samhan Reserve;
- Khor Al-Baleid Reserve;
- Khor Al-Dahareiz Reserve;
- Khor Al-Magseil Reserve;
- Khor Owgad Reserve;
- Khor Al-Qurm Al-Kabeir Reserve;
- Khor Al-Qurm Al-Sageir Reserve;
- Khor Rowry Reserve;
- Khor Tagah Reserve;
- Mangrove Reserve, Muscat;
- Sea Turtle Reserve, Ras Al-Hid.

Qatar

- Al-Mashabiah Protected Area;
- Ras Osheiraj Reserve;
- Shahanya Park.



Sand gazelle.
Photo: Saeed A. Mohammed.

Saudi Arabia

- Al-Jubail Marine Wildlife Sanctuary;
- Al Khunfah Reserve;
- Al Tubaiq Reserve;
- Farasan Islands;
- Harrat al Harrah Reserve;
- Ibex Reserve;
- Mahazat al-Said Reserve;
- Majame al-Hadhb Reserve;
- Orooq Bani Maaredh;
- Raidah Reserve;
- Taif Wildlife Centre;
- Thumama Wildlife Centre;
- Um al-kamari Reserve.

United Arab Emirates

- Jabal Ali Reserve;
- Khor Dubai;
- Sinaya Island;
- Sir Bani Yas.

Proposed ecotourism activities in the GCC countries within or outside the protected areas:

- bird watching;
- walking and hiking;
- dugong watching;
- snorkelling and diving;
- sea turtle observation;
- wild desert plants observation.

Challenges and recommendations:

- incorporate protected area system in the land use plans and coastal zone management;
- consider ecotourism within the sustainable development strategy;
- introduce effective management plans in some selected Reserves to accommodate ecotourism activities;
- encourage NGOs and local communities to organise ecotourism tours with strict supervision and cooperation with the Protected Areas Authorities;
- feedback and reassessment of the activities are required regularly.

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The Dana Project, Jordan

KHALED IRANI AND CHRIS JOHNSON

Jordan is a small, arid country supporting a remarkable variety of wildlife habitats and many endemic species. It has a rapidly growing population, with current growth rates exceeding 3.1%. Development pressures and poverty have resulted in severe land degradation, leading to widespread habitat and species losses; problems greatly exacerbated by the Middle East conflicts. Urbanisation is advanced, with over 70% of the population living in towns and cities, but most of the rest rely on subsistence agriculture or pastoralism and many remain nomadic. The Government has shown a commitment to biodiversity conservation, being a signatory to the Biodiversity Convention, but it lacks the financial resources to invest heavily in national conservation programmes, carrying a national debt of \$7.2 thousand million. Its strategy is unusual in that it has granted the Royal Society for the Conservation of Nature (RSCN), a long established NGO, the mandate to establish and manage protected areas and enforce wildlife protection laws. Protected areas are the cornerstone of the country's biodiversity conservation initiatives and, to date, six have been established covering over 1,000 km². All of them have poor, subsistence communities living inside or around their boundaries.

This case study examines the results of a pioneering project, implemented by the RSCN, which has attempted to sustain biodiversity conservation in Jordan's protected areas through the development of community based, *market-driven* income generation and tourism programmes. It describes how income generation schemes can be used to help regulate damaging resource-use practices and promote more positive attitudes towards conservation initiatives. It also draws attention to the benefits of institutional strengthening for enabling community based approaches to be effectively implemented and sustained.

ONE YEAR before the institutional programme began, a large protected area (300 km²) had been designated in southern Jordan called the Dana Wildlands Nature Reserve. Living within and around the protected area were several hundred people from nomadic and settled communities who were partially or entirely dependent on the area for their livelihood; most notably for the grazing of goats and sheep. These people were (and still are) among the poorest and most disadvantaged in Jordan and included a significant number of nomadic refugee families from adjoining Palestine. Most of them had not been consulted about the establishment of the protected area and were openly hostile towards the concept of the reserve, the RSCN and the initial regulations imposed on hunting and grazing. They perceived the reserve as depriving them of their traditional rights and of opportunities to exploit its resources for their own social and economic needs. If these problems had not been addressed, the general hostility towards the reserve would have remained, making attempts to regulate damaging land use practices, such as excessive grazing, extremely difficult to enforce, with the possibility of violent confrontation. Also, it would have been impossible to 'sell' the benefits of biodiversity conservation to such an alienated population, resulting in a lack of political and practical support for environmental initiatives locally and nationally. Furthermore, if no compensation was made for restricting traditional uses of the protected area, life would have been made even more difficult for these marginalised people.

The change process

The process of integrating the local community into the protected area conservation

programme was initiated and directed by a specific project funded by the Global Environment Facility (GEF), entitled *Conservation of the Dana Wildlands and Institutional Strengthening of RSCN*. Jordan was a signatory to the 1992 Biodiversity Convention and was eligible for projects under the pilot phase GEF programme. This project was prepared by a World Bank consultant team, following lengthy consultation with the RSCN, Government Departments (notably the Ministry of Planning) and other stakeholders. The intention of the key stakeholders, and particularly the RSCN, was to use the Dana Nature Reserve to create a regional model of integrated conservation and development in the spirit of the Biodiversity Convention; recognising that in Jordan, and many other developing countries in the Middle East, the socio-economic needs of people still directly dependent on natural resources must be addressed in order to achieve political and practical support for biodiversity conservation. The organisation which led this Jordanian initiative and brought about the change was the RSCN. It was appointed as the sole implementing agency for the project and responsible for all activities on the ground.

The outcome

In order to address the problems between the local communities and the Dana Nature Reserve, institutional changes were instigated at two main levels: at the *site* level with the development of income generation activities for local people linked to the presence of the protected area; and at the *organisational level* with the restructuring of the RSCN to ensure that it had the capability, technically and financially, to initiate and manage community based conservation programmes.

The income generation schemes introduced within and around the Dana Nature Reserve were intended to provide local people with financial and social benefits from the reserve and compensate for imposed restrictions such as grazing controls. They included enterprises such as fruit drying and processing, medicinal and culinary herb production, jewellery making and extensive tourism services. All of these enterprises were developed with a strong emphasis on marketing. A marketing strategy was developed based on using a conservation philosophy and the nature reserve 'address' as the principal selling points of the newly developed products and services. This was manifest, for example, in the use of recycled materials for packaging, in the use of 'Wadi Dana' as a brand name and in the product slogan 'helping nature, helping people'. Tourism services were also 'sold' on the contribution visitors would make to protecting wildlife and supporting the local economy. The reason for adopting a market-led approach was to demonstrate to the local communities that the nature reserve itself could provide the means to generate small businesses and employment opportunities to supplement or replace the subsistence farming and income generators they were engaged in before the reserve existed. Through this approach, it was hoped that the local people would, ultimately, become more supportive of the reserve and of the RSCN and more willing to observe the reserve regulations.

In order to develop the income generation activities, a socio-economic and a tourism unit were established within the RSCN, each with a development officer and compliment of staff. The organisational structure of these units include on-site coordinators and managers recruited from the target communities. These staff are being given increasing autonomy, with the long-term aim of the local operations achieving effective independence from the RSCN headquarters. Mechanisms for involving local people in the development process have been put in place, including

steering groups comprising reserve management staff, RSCN HQ staff and beneficiaries of the socio-economic programmes. Private sector operators have also been increasingly involved, particularly in tourism programmes, where they are marketing the Dana Reserve in collaboration with RSCN as a destination for their clients.

At the end of 1998, after 3 years of operations, the Dana Reserve income generation activities had raised \$380,000 in sales and tourism receipts, created 55 new jobs and provided increased financial benefits to over 160 people. The tourism receipts alone in 1997 covered 60% of the reserve's running costs and, interestingly, 70% of the visitors were Jordanian. There has also been a notable shift in the local people's attitude towards the Reserve, revealing a much higher level of support and cooperation.

An interesting recent development has been the creation of a goat-fattening scheme to enable the Bedouin pastoralists in the western part of the reserve to sell their animals at economic prices. These pastoralists are the most disadvantaged community affected by the reserve, being predominantly refugees from Palestine and required to exist in highly marginal rangelands. They also have the largest number of livestock in the reserve (some 8000 animals) and this excessive grazing pressure poses the most serious threat to the conservation programme. If the fattening scheme proves financially viable, agreements will be reached with the Bedouin requiring them to reduce their flock sizes by 50% in ten years.

The introduction of the community-based initiatives described above has only been possible by far reaching institutional changes within the protected area management authority – the RSCN. To enable the RSCN to understand and develop such approaches its knowledge base, skill level, profile and fund-raising capacity have all needed to be enhanced within an organisational framework which encourages planning, teamwork, innovation and risk taking. An intensive, three year institutional strengthening programme was implemented under the GEF programme, culminating in the complete re-structuring of the organisation, the preparation of a long-term corporate plan, the revision of the organisation's legal constitution and, most importantly, the assembly of a well trained and highly motivated staff team.

Lessons learned

The innovative aspect of the Dana programme is its emphasis on income generation as a principal institutional tool for engendering a more positive and productive relationship between poor rural communities and protected areas, and particularly its attempt to link income generation with a conservation philosophy and community agreements for the enforcement of regulations. The principal lessons learned from this experience, which could be replicable elsewhere, are summarised as follows:

- it is important to help local communities understand the values of biodiversity conservation and to involve them in making decisions about conservation, but these things are not sufficient in themselves. Community based projects must also provide tangible, concrete help in addressing the communities' priorities such as employment opportunities (in the Dana case). They must also be able to offer viable alternatives to the land-use practices which need to be regulated such as firewood cutting and hunting;
- additional income, jobs and alternatives to damaging land-use practices can be addressed through market-driven income generation schemes, developed on 'the back' of protected areas. Poor rural communities in parts of Jordan, however, do not

grasp marketing concepts easily and require continual guidance and involvement, as well as regular re-enforcement of the link between the success of the enterprise and the presence of the protected area;

- income generation schemes can be tied to the enforcement of protected area regulations, such as grazing controls. This requires an in-depth understanding of target communities and the extent of their dependency on the protected area and an ability to be responsive to their immediate needs, whilst at the same time, being clear about the basis of the bargain struck and the intention to rigorously enforce the terms of the bargain;
- the institutional capacity building programme implemented for the protected area management authority (RSCN) was essential for enabling it to work effectively with local communities and to embrace both the philosophy and practice of community based approaches to resource management;
- private sector involvement can be very valuable for ensuring the commercial success of income generation schemes, and especially tourism enterprises, but it needs to be carefully guided and monitored to ensure that the conservation philosophy and practices upon which these schemes have been built is maintained;
- in-country tourism to protected areas can be an important generator of income and jobs for local communities but it needs to be nurtured and catered for.

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The Dana Project was chosen as an international project for Hannover 2000.

Exploration for natural gas in protected areas: the case of Kirthar National Park in Pakistan

ALI QADIR

Two multinational oil and gas companies have been awarded an exploration license in a block comprising more than 90% of a national park in Pakistan. Various environmental groups, including the Pakistan National Committee of IUCN, have been resisting further progress by the companies and have been instrumental in raising public awareness on the issue. With the companies and the federal government eager to tap potentially large reserves, an impasse has been created over the past two years. IUCN Pakistan has been working continuously with all stakeholders to evolve an acceptable resolution. It is concerned that there is no current scientific information regarding the biodiversity or ecosystem value of the park, as the park has not been analysed since 1974, when it was initially notified. The Union has been supported by numerous groups in calling for an in-depth study of the park before taking any decisions regarding exploration. Recent dialogues with the companies have resulted in a possible solution, by conducting the study, that does not challenge existing conservation legislation and also preserves the integrity of Kirthar National Park. Throughout, IUCN has remained concerned with the broader issues surrounding the conflict: governance for conservation, the impact on other protected areas in the country, and developing a unique partnership for the future of sustainable development in the country.

KIRTHAR NATIONAL Park is a protected area of 308,733 ha situated in Pakistan's south-eastern province of Sindh, 80 miles north of the provincial capital Karachi. Kirthar is home to the unique sub-species: Sindh ibex *Capra bircus*. The urial *Ovis orientalis* and the chinkara *Gazella gazella* also reside in the park, along with 27 other species of mammals, various families of reptiles and at least 58 species of birds. Historically, the area is of prime importance, with the (reputedly) largest of the world's historic forts (Rannikot) and archaeological sites dating back to 3500 BC (near Koh-Tarash). An area of outstanding scenic beauty, it is also populated by local tribal communities, numbering at least 16,000 people (in 1989).

Kirthar was designated a national park by the Sindh Forest and Wildlife Department in 1974, following a study on Pakistan's wildlife and protected areas (Mountfort and Poore 1968). The study was both sought and accepted by the Government of Pakistan. In addition, Kirthar qualifies for the criteria fixed by IUCN-The World Conservation Union for a Category II protected area, designated mainly for ecosystem preservation. It is the first of Pakistan's parks to be included in the United Nation's listing of National Parks of 1975, and its status as a national park has been reaffirmed in the 1997 UN List of Protected Areas.

Kirthar National Park does possess a management plan, but there is no doubt that better management is needed in the protected area. Human population has been steadily increasing, and in 1989 about 64,000 ha of the park were under cultivation in the 118 settlements. Some 102,667 ha of the land may be privately owned or leased from the government. Domestic livestock creates pressures on the local fauna.



Map of Pakistan with provinces named.

Additional pressures on the park's biodiversity include hunting: the last recorded leopard *Panthera pardus* was shot in 1977, and the caracal *Felis caracal* is no longer visible. These indicators point to the need for better park management, if Kirthar is to fulfil its aims as a national park.

Concerns about Kirthar National Park, however, arose not because of its ecological value, but due to proposed mining for gas by multi-national corporations in the protected area. Serious concerns are being raised by environmental groups about this project: about allowing an activity such as mining in a national park; on contravening provincial legislation that specifically

prohibits mining in a national park; about the impact this will have on other protected areas; and on Pakistan's commitment to conservation, as confirmed by their ratification of environmental treaties such as the Convention on Biological Diversity. At stake is the governance of conservation – legislation and establishments for conservation such as wildlife departments – that will be weakened rather than strengthened at a time when they need to be built up to meet the challenges of conservation.

Kirthar under fire

Events began in July 1997, when the Ministry of Petroleum (Directorate General of Petroleum Concessions) granted the Dumbar Block Exploration License to Premier Exploration Pakistan Ltd¹. The license, covering almost all of Kirthar National Park in its area, is subject to the usual condition of conducting, and abiding by, an Environmental Impact Assessment of the proposed exploration. This was reaffirmed by a notification of the federal government of this concession.

Relevant legislation and policies

1. Notification of Kirthar National Park on January 31, 1974: *Government of Sindh Notification No. WL & FT (SO1-DCF-993) 74*.
2. Article 15 of Sindh Wildlife Protection Ordinance 1972: "clearing or breaking up any land for cultivation, mining or for any other purpose [will be] prohibited in a national park".
3. Notification banning all mining activities in National Parks, Wildlife Sanctuaries and Game Reserves on January 21, 1997: *Government of Sindh Notification No. EC(MD)1-07/97*.
4. WCPA Position Statement on Mining and Associated Activities in Relation to Protected Areas, endorsed by IUCN Council in April 1999: "Exploration and extraction of mineral resources are incompatible with the purposes of protected areas".

¹ For administrative ease, Pakistan has been divided into blocks by the federal Ministry of Petroleum and Natural Resources to be awarded to companies for exploration and mining of oil and gas.

... Categories I to IV, and should therefore be prohibited by law or other effective means”.

5. Government of Pakistan’s state membership with IUCN.
6. Signing by the Government of Pakistan (in 1992) and ratification by the federal Cabinet (in 1994) of the Convention on Biological Diversity.

As the Dumbar Block encompasses more than 90% of Kirthar National Park, and the Sindh Forest and Wildlife Department (SFWD) is responsible for the area’s management, Premier Exploration approached SFWD for their cooperation. SFWD, in turn, expressed serious concerns about the negative environmental impacts of the proposed exploration and mining in the park. They based their case on the Sindh Wildlife Protection Ordinance 1972 and a notification of the Sindh government in January 1997 banning mining in national parks. The department approached the members of IUCN in a meeting in August 1997 to assist in this case. The Pakistan National Committee (PNC) of IUCN actively pursued the request of the Department (which is a member) and kept the issue alive through its members. In particular, the Committee contacted interested parties willing to keep the issues in the limelight and also obtained a legal opinion on gas exploration in Kirthar National Park. The opinion confirmed that any mining would be contrary to current laws. The PNC also formed a sub-committee to address various concerns and raise public awareness regarding mining activities in the protected area.

In January 1999, Premier Exploration merged with Shell internationally for their on-shore exploration activities, and the joint venture of Premier and Shell Pakistan BV has since been in dialogue with environment organisations and the government. In May 1999, this matter was taken before the governor of Sindh, who constituted a high-level committee (to be chaired by the Chief Secretary, Sindh) to address the issue and take action. This was motivated by the government’s desire to “exploit natural resources” in view of the energy ‘crisis’ in the country and to counter the rising energy import bill.

The committee’s terms of reference (TOR) included the intent to “suggest such amendments / modifications in the existing law, rules and regulations as would facilitate conduct of seismic survey and related operations for oil and gas in the protected areas, including Kirthar National Park.” IUCN, WWF, Sindh Forest and Wildlife Department, Directorate General of Petroleum Concessions, Sindh Environmental Protection Agency and Premier and Shell Pakistan BV were all invited to sit on this committee. IUCN (through a letter to the governor) declined to participate, on the grounds that it would not be part of any process that would legitimise mining activities that are illegal under current legislation. It also expressed a desire to strengthen the laws of conservation by obeying them, not amending them as and when convenient. WWF continues to represent environmental concerns in the committee.

Sindh ibex. Photo: Anis Ahmed, Sindh Forest and Wildlife Department.



The committee met for the first time on July 24, 1999, and approved conducting an Environmental Impact Assessment (EIA) of the proposed exploration.

The impasse ...

Currently, there is inadequate scientific information about the park, as the last full survey of the park was conducted in 1974 when it was notified. Environmental organisations believe that detailed information is needed on which management decisions can be based. This should emanate from an in-depth study of the park, followed by a park management plan.

The in-depth study being proposed is different from the EIA suggested by the government and the joint venture. The EIA proposed contains baseline information, but moves on to assessing the possible environmental (and social) impacts *of the activity* – exploration and mining for gas. It is, thus, specific to the activity. NGOs, however, maintain that mining or related activities are not allowed under law. Instead, what should be conducted is an in-depth analysis *of the park* – its ecological and social status as a protected area, regardless of any ‘development’ activity. This study (an independent analysis) should then form the basis of a management plan for the park. The study is thus different from the EIA, as it addresses the park as a protected area, not the specific activity of exploration in a protected area.

The joint venture, naturally, is keen to proceed with exploration activities, after a delay of over two years. They have assured the government and environmentalists that they would contribute to the management of the park and also abide by the framework of suggestions given by the EIA. The government, likewise, is eager to proceed, particularly in light of preliminary (albeit unofficial) estimates that indicate the presence of a large reservoir of natural gas in the area².

However, environmental groups find this unacceptable, and vary in their opposition to the project. Some are demanding that the exploration license be rescinded, the provincial conservation law upheld and the park’s integrity to be maintained. Others are pressing for the in-depth study, followed by a management plan, all to be monitored by an independent body made up of stakeholders.

There is no doubt that the stakes in this issue are now considerable, particularly with the high profile that the case has received in the media. A number of articles and letters have appeared in national dailies, newsletters, magazines and electronic distribution lists. This makes it all the more important for any resolution to be transparent and to be monitored independently.

... and beyond

There matters rested for over a year: the call for conservation of the environment on the one hand, and the corporate desire for profits on the other; the appeal to uphold the laws and institutions of conservation versus the state desire to ‘power the country’. The corporations, backed by the government, pursuing the EIA, with the environmentalists calling for an in-depth study followed by a management plan for the park.

However, recent dialogues of the joint venture with IUCN Pakistan have opened up an avenue for cooperation: the companies have, in principle, agreed to fund a

² Although Pakistan is self-sufficient in natural gas, it imported almost US\$ 1 million in energy products last year.

baseline study of the park by an independent consultant and monitored by stakeholders. Based on the preliminary findings of this study, a decision can be taken on whether to proceed with the EIA in specific zones. This will be complemented by the formulation and implementation of a park management plan, regardless of any future development activity.

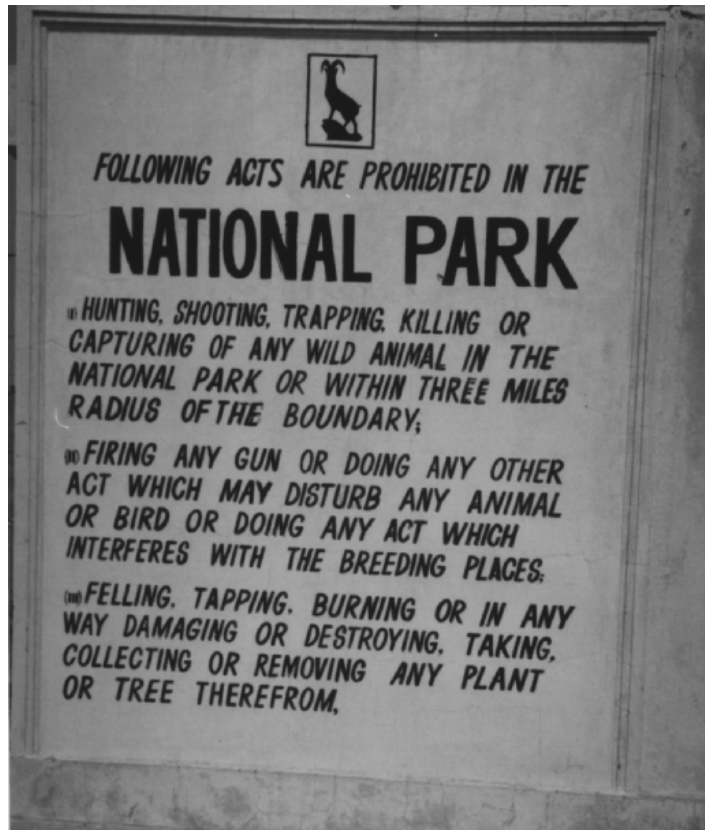
Keeping in mind the aspect of governance for conservation (and the stakes in the outcome of the study), IUCN has suggested that this entire process be monitored and implemented in an exemplary and unique manner. In particular, the study design, implementation and future action need to be participatory in nature. First of all, the Governor's committee should authorise the federal secretaries of environment and petroleum, and the Chief Secretary of Sindh to initiate an independent governance mechanism. This would bring the issue to the relevant level of decision-making in the country. This new body should take the form of a reliable and autonomous committee made up of respected scientists, the joint venture of Shell and Premier, Federal Ministries of Petroleum and Environment, Sindh Forest and Wildlife Department, involved NGOs, and prominent concerned citizens. The committee should be chaired by an eminent and respected individual to provide credibility to its decisions.

This committee can monitor the baseline study, examine its findings, and decide whether an EIA should be conducted based on preliminary data. After the baseline study is complete, the committee should initiate a park management plan and monitor its implementation. The committee should also have the authority to administer a trust fund set up for this process, regardless of whether exploration is allowed or not. Furthermore, the committee being suggested must have the authority to allow for suitable notification of the park based on the recommendations of the study, which it should own.

It is important to note the causal linkage in the solution being recommended. The in-depth study is a pre-requisite to taking any decisions. *If* the study's initial findings so indicate, an EIA *may* be allowed in the park. Also, *if* the study so recommends, the park's status *may* be altered to take into account ground realities. *If* the EIA so recommends, exploration *may* be allowed in certain zones on the park, within a certain framework to be suggested.

This entire process, it is suggested, be monitored and owned by an independent governing mechanism: the committee proposed. Regardless of the findings of

Notice at recreation facility in Kirthar National Park. Photo: Umer Gul Afridi, (IUCN Pakistan).





Archeological site in Kirthar National Park. Photo: Umer Gul Afridi (IUCN Pakistan).

the initial study, a park management plan needs to be formulated and implemented under the guidance of the committee.

Bringing the issue of exploration for gas in Kirthar National Park to the notice of the public has been a significant achievement of the environmental groups in Pakistan. The fact that the companies are not pursuing their uncontested license without paying heed to other concerns is in itself a positive sign. Particularly in view of the dire straits of Pakistan's economy, when the government has

recently been pursuing short-term economic benefits. However, the environmental groups need to move beyond this stage now, and to work towards a resolution of the issue that considers the multiple factors involved.

The suggestion by IUCN brings together concerns of the different stakeholders in mutually agreeable path beyond the impasse based on a concrete, factual analysis. As a middle ground, it has the potential to be acceptable to most, if not all, of the stakeholders. Dialogue is currently underway to discuss the nuts and bolts of a unique resolution in the history of multi-stakeholder involvement in development initiatives in Pakistan. If the solution is followed through in all its stages, it can set an encouraging precedent for similar courses nationally and internationally.

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Ali Qadir coordinates the advocacy programme of IUCN Pakistan. The programme, nested firmly within the Communications Unit, provides strategic support to IUCN projects, offices and units in their advocacy work. It is also engaged in creating links with relevant institutions in the public and civil society sectors. Currently actively involved in the issue of exploration for gas in Kirthar National Park, supporting the advocacy work of the Karachi office of IUCN Pakistan.

IUCN-The World Conservation Union, Pakistan is the country office of the global union. It acts as secretariat to the 24 members in the Pakistan National Committee. In pursuing its mission, IUCN Pakistan has been instrumental in developing the National Conservation Strategy for Pakistan and its follow-up. The Communications Unit is the thematic group responsible for all communications and publication work of the organisation.

Résumés

Plan d'action régionale et proposition de projets du WCPA pour l'Afrique du Nord et le Moyen Orient

OTHMAN ABD-AR-RAHMAN LLEWELLYN

Le plan d'action régionale et la proposition de projets du WCPA ont été à l'origine ébauchés par les agences de conservation des pays de la région au Forum sur la Conservation de Riyad, 1-4 octobre 1995. J'ai ensuite avec d'autres personnes développé et révisé ces documents dans la région grâce à de vastes consultations avec le WCPA et l'UICN. Les documents révisés ont été discutés, amendés et approuvés au Forum Régional de la Conservation d'Amman, en Jordanie en février 1998, et finalisés au cours de l'Atelier de Planification du Programme Asie Occidentale et Centrale et Afrique du Nord à Riyad en septembre 1999.

Le plan d'action régionale et la proposition de projets ont été largement développés dans le cadre des accords internationaux concernés sur la conservation en général, et en particulier la Convention sur la Diversité Biologique. La majeure partie des 32 pays de la Région Afrique du Nord et Moyen Orient sont membres de la CDB, et on s'attend à ce que plus de pays y accèdent dans un avenir proche. Le plan d'action régionale et la proposition de projets visent à aider les états signataires à répondre à leurs obligations dans le cadre de la CDB d'établir ou augmenter leurs systèmes de zones protégées, développer la législation et la formation nécessaires, et initier le développement durable grâce à des activités telles que le tourisme nature.

Outre son rapport avec la Convention sur la Diversité Biologique, le Plan d'action régionale et la proposition de projets ont des liens forts avec la Convention pour l'Héritage Mondial, la Convention sur les Espèces Migratrices, la Convention du Combat contre la Désertification, Ramsar et la Convention sur les Changements Climatiques. Ils sont aussi étroitement liés au programme Homme et Biosphère de l'UNESCO.

Tendances en Arabie Saoudite : implication croissante de la communauté et un rôle potentiel pour l'écotourisme

PHILIP J. SEDDON

L'approche historique de l'instauration de parcs nationaux qui sont d'une manière ou d'une autre isolés de la plus grande société a été dépassée par une nouvelle approche de la conservation des espèces et des écosystèmes... Notre Avenir Commun (WCED 1990).

Au cours des dix dernières années, il y a eu un changement mondial d'orientation de l'approche conservacionniste vers la gestion des zones protégées et la reconnaissance croissante que l'implication de la communauté locale est essentielle si l'on veut remplir les objectifs de conservation à long terme. En Arabie Saoudite, où les zones officielles de protection de la faune sauvage n'existent que depuis dix ans, l'exclusion des utilisateurs traditionnels de ces ressources a abouti à des conflits à l'intérieur et autour des réserves, et a retardé le développement du réseau des zones protégées.

Les initiatives récentes ont cherché à augmenter le soutien du public envers les zones protégées en Arabie Saoudite grâce à la création de zones d'usage multiple, grâce à une consultation accrue des chefs tribaux, grâce à l'emploi de gardes de la faune sauvage venant des communautés environnantes, et grâce à l'évaluation des potentialités d'écotourisme en facilitant un accès régulé du public, en générant des revenus et en offrant des opportunités d'éducation à l'environnement.

Projet de zones protégées au Liban : conserver un héritage ancien

FAISAL ABU-IZZEDIN

Le Liban se trouve sur les côtes orientales de la Mer Méditerranée. Malgré sa petite taille de 10415 km², le Liban est universellement connu pour les vestiges de ses forêts de cèdres *Cedrus libani*. L'histoire de la surexploitation de sa flore et de sa faune indigènes est documentée dans les inscriptions et textes anciens qui remontent à plus de 5000 ans.

Le besoin urgent du Liban aujourd'hui est de conserver les habitats forestiers et marins restants et de maintenir l'équilibre écologique de ses écosystèmes naturels. A cette fin, le Projet Zones Protégées a commencé à fonctionner le 15 novembre 1996 grâce à une subvention de 2,5 millions de dollars

américains du Global Environment Facility (GEF) par l'intermédiaire du Programme de Développement des Nations Unies (PDNU). Le projet est mis en œuvre par le ministère libanais de l'Environnement en partenariat actif avec les organisations non gouvernementales locales et les institutions scientifiques sous la houlette de l'Union Internationale pour la Conservation de la Nature (UICN).

Le Projet Zones Protégées a mis en place un système efficacement géré de trois réserves naturelles modèles pour sauvegarder des espèces endémiques et menacées de plantes et d'animaux, conserver leurs habitats, incorporer la conservation de la biodiversité comme partie intégrante d'un développement humain durable, promouvoir des objectifs écologiques et économiques à court et à long terme, et encourager la réconciliation nationale en rassemblant les gens et les institutions pour la conservation de la nature.

Vue d'ensemble des zones protégées en Turquie

M. NIZAM SAVAS

La science et la technologie moderne ont peut-être permis à l'homme d'atteindre la lune et l'espace infini, réalisant des choses qui auraient été considérées comme des miracles jusqu'à très récemment, mais la science n'a pas la possibilité de fournir de nouvelles ressources naturelles pour remplacer celles qui existent déjà. Par conséquent il reste de la plus haute importance que nous empêchions les attitudes destructrices des valeurs naturelles de notre Vieille Terre, et que nous laissons derrière nous non seulement les œuvres de civilisation créées de la main de l'homme, mais aussi la nature elle-même.

Les ressources naturelles de la Turquie, s'étendant entre l'Asie et l'Europe, ont été la source de vie de centaines de millions de personnes depuis 9000 av.J.C. Depuis lors, des peuples ont utilisé les ressources naturelles de l'Anatolie, quand ils fondaient leurs civilisations et développaient la technologie pour les maintenir et les améliorer. Aujourd'hui, les Turcs prennent des mesures pour assurer l'avenir viable de leurs ressources naturelles.

Vers un programme d'écotourisme dans les pays du GCC

SAEED A. MOHAMMED

Le tourisme est une industrie qui croît rapidement dans le monde entier. L'industrie du tourisme de masse a explosé au 20^{ème} siècle, en particulier après la Deuxième Guerre Mondiale. Dans les années 60, un type de tourisme différent et plus discret émergeait – un tourisme qui se souciait surtout de l'environnement et de la nature ou un tourisme nature. Le nouveau secteur alternatif de cette vaste industrie est connu aujourd'hui sous le nom d'écotourisme. Selon les définitions de l'UICN, ce type de tourisme est décrit comme : voyage et visite responsables sur le plan environnemental dans des zones naturelles relativement non-perturbées, dans le but de profiter de la nature et de l'apprécier. C'est un processus en évolution rapide dans de nombreux pays, où certaines zones protégées et certains sites non-perturbés sont utilisés dans le cadre d'activités d'écotourisme.

Le projet Dana, Jordanie

KHALED IRANI ET CHRIS JOHNSON

La Jordanie est un petit pays aride comportant une remarquable variété d'habitats de la faune sauvage et de nombreuses espèces endémiques. Sa population augmente rapidement, avec des taux actuels de croissance dépassant 3,1%. Les pressions du développement et la pauvreté ont eu pour résultat une grave dégradation des terres, conduisant à des pertes d'habitats et d'espèces très étendues, problème grandement exacerbé par les conflits du Moyen Orient. L'urbanisation est avancée, plus de 70% de la population vivant dans les villes et cités, mais pour l'essentiel le reste de la population dépend de l'agriculture de subsistance ou du pastoralisme et beaucoup restent nomades. Le Gouvernement a montré son engagement dans la conservation de la biodiversité, en tant que signataire de la Convention sur la Biodiversité, mais il manque de ressources financières pour faire des investissements lourds dans les programmes de conservation nationale, supportant une dette nationale de 7,2 milliards de \$. Sa stratégie est inhabituelle dans le sens qu'il a confié à la Société Royale pour la Conservation de la Nature (SRCN), une ONG établie de longue date, le mandat d'établir et gérer des zones protégées et faire appliquer les lois de protection de la faune sauvage. Les zones protégées sont la pierre angulaire des initiatives de conservation de la biodiversité du pays et, à ce jour, six ont été instaurées, couvrant plus de 1000 km². Toutes ont des communautés de subsistance, pauvres, vivant à l'intérieur ou autour de leurs limites.

Cette étude de cas examine les résultats d'un projet pionnier, mis en œuvre par la SRCN, qui a tenté de soutenir la conservation de la biodiversité dans les zones protégées de Jordanie grâce au développement à la création de revenus *de marché* et de programmes de tourisme basés sur la

communauté. Elle décrit comment des plans de création de revenus peuvent être utilisés pour aider à réguler les pratiques dommageables d'utilisation des ressources et promouvoir des attitudes plus positives envers les initiatives de conservation. Elle attire aussi l'attention sur les avantages du renforcement institutionnel pour permettre aux approches basées sur la communauté d'être efficacement mise en œuvre et soutenues.

Exploration pour le gaz naturel dans les zones protégées : le cas du Parc National du Kirthar au Pakistan

ALI QADIR

Deux compagnies multinationales pétrolières et gazières ont reçu une licence d'exploration dans un bloc comprenant plus de 90% d'un parc national du Pakistan. Divers groupes environnementaux, parmi lesquels le Comité National de l'UICN du Pakistan, se sont opposés à davantage de progression des compagnies et ont contribué à la prise de conscience du public sur cette question. Ces sociétés et le gouvernement fédéral étant impatients de puiser dans ces réserves potentiellement importantes, une impasse s'est créée au cours de ces deux dernières années. L'UICN Pakistan a travaillé sans arrêt avec les parties prenantes pour développer une résolution acceptable. Elle s'est inquiétée de ce qu'il n'y ait aucune information scientifique actuelle concernant la biodiversité et la valeur des écosystèmes du parc, puisque ce dernier n'a pas été analysé depuis 1974, lors des avis initiaux. L'Union a reçu le soutien de nombreux groupes pour exiger une étude en profondeur du parc avant de prendre une quelconque décision concernant l'exploration. Des dialogues récents avec les compagnies ont résulté en une possible solution, en menant l'étude, qui ne mette pas en question la législation de conservation existante et aussi qui préserve l'intégrité du Parc National du Kirthar. Tout le temps, l'UICN est restée inquiète des problèmes plus larges entourant le conflit : l'autorité de la conservation, l'impact sur les autres zones protégées du pays, et le développement d'un partenariat unique pour l'avenir du développement durable dans le pays.

Resúmenes

El plan de acción regional de la WCPA y la propuesta del proyecto para el África del Norte y el Medio Oriente

OTHMAN ABD-AR-RAHMAN LLEWELLYN

El Plan de Acción Regional de la WCPA y la Propuesta del Proyecto fueron bosquejadas originalmente por las agencias conservacionistas de los países de la región en el Foro de Conservación de Riyadh, 1-4 de Octubre de 1995. Los documentos fueron desarrollados un poco más y revisados por mí mismo y otra gente de la región a través de extensivas consultas con la WCPA y la IUCN. Los documentos revisados fueron discutidos, corregidos y endosados en el Foro de Conservación Regional en Amman, Jordania, en febrero de 1998 y finalizados en el Taller para la Planificación del Programa de África del Norte en Riyadh en septiembre de 1999.

El Plan de Acción Regional y la Propuesta del Proyecto han sido mayormente desarrollados dentro del marco de los acuerdos internacionales de conservación en general y de la Convención de Diversidad Biológica (CBD) en particular. La mayoría de los 22 países del África del Norte y de la Región del Medio Oriente forman parte de la CBD y se espera que más países se adherirán a ella en un futuro cercano. El Plan de Acción Regional y la Propuesta del Proyecto tienen como meta ayudar a los estados signatarios a cumplir con sus obligaciones bajo la CBD, establecer o expandir su sistema de áreas protegidas, desarrollar la legislación necesaria y el entrenamiento e iniciar un desarrollo sostenible a través de actividades tales como el turismo basado en la naturaleza.

Además de sus vínculos con la Convención de Diversidad Biológica, el Plan de Acción Regional y la Propuesta del Proyecto tienen fuertes vínculos con la Convención del Patrimonio Mundial, la Convención de Especies Migratorias, la Convención para combatir la desertificación, Ramsar y la Convención de Cambios Climáticos. Está también estrechamente vinculada con el Programa del Hombre y la Biosfera de la UNESCO.

Tendencias en Arabia Saudita: el involucramiento creciente de la comunidad y el papel potencial del ecoturismo

PHILIP J. SEDDON

El enfoque histórico de establecer parques nacionales que están bastante aislados de la sociedad mayor ha sido superado por una aproximación nueva hacia la conservación de las especies y de los ecosistemas... Nuestro futuro común (WCED 1990).

En los últimos diez años ha habido un cambio global que se aleja de la aproximación preservadora de las áreas protegidas y un reconocimiento creciente de que la participación de la comunidad local es esencial si es que se quieren obtener los objetivos, a largo término, de la conservación.

En Arabia Saudita, donde áreas formales de protección de la vida salvaje han existido por sólo 15 años, la exclusión de los usuarios tradicionales de los recursos, ha provocado conflictos dentro y alrededor de las reservas y ha detenido el desarrollo de la red de áreas protegidas.

Iniciativas recientes han tratado de aumentar el apoyo público de las áreas protegidas de Arabia Saudita a través de la creación de zonas de uso múltiple; el incremento de las consultas con los líderes tribales; el uso de guardabosques que provienen de las comunidades de los alrededores; la evaluación del papel potencial del ecoturismo facilitando el acceso público regulado; la generación de ingresos y la provisión de oportunidades para la educación ambiental.

El proyecto de áreas protegidas en el Líbano: conservando el patrimonio antiguo

FAISAL ABU-IZZEDDIN

El Líbano está situado en la costa este del mar Mediterráneo. A pesar de su pequeño tamaño de 10.415 km², el Líbano es conocido universalmente por lo que queda de sus bosques de cedros *Cedrus libani*. La historia de la excesiva explotación de su fauna y flora nativas está documentada en antiguas inscripciones y textos que datan de hace más de 5.000 años.

La urgente necesidad en el Líbano de hoy es la de conservar lo que queda de los bosques y de los habitats marinos y mantener el equilibrio ecológico de sus ecosistemas naturales. Es con este fin que el 15 de noviembre de 1996 el Proyecto de Areas Protegidas comenzó su trabajo gracias al donativo de la Facilidad del Entorno Global (GEF) de \$ 2.5 millones de dólares a través del Programa de Desarrollo de las Naciones Unidas (UNDP). El proyecto está siendo implementado por el Ministerio del Medio Ambiente del Líbano (MOE) en asociación activa con las organizaciones no gubernamentales locales (NGOS) e instituciones científicas, bajo la guía técnica de la Unión de la Conservación Mundial (IUCN).

El Proyecto de Areas Protegidas ha puesto en marcha un sistema de tres modelos de reservas naturales manejados efectivamente para salvaguardar especies de plantas y animales endémicas y amenazadas, conservar sus habitats, incorporar la conservación de la biodiversidad como parte integral del desarrollo humano sostenible, promover los objetivos económicos y ecológicos de la conservación de la biodiversidad a corto y largo plazo y promover la reconciliación nacional por medio de la unión del pueblo y las instituciones y así juntos conservar la naturaleza.

Una vista general de las áreas protegidas en Turquía

M. NIZAM SAVAS

La ciencia y la tecnología modernas han permitido que el hombre llegue a la luna y al espacio profundo, logrando realizar cosas que habían sido consideradas milagros hasta hace poco tiempo, pero la ciencia carece de la facultad de proveer recursos naturales nuevos para reemplazar aquellos que ya existen. Por lo tanto, la prevención de actitudes destructivas hacia los valores naturales de nuestro Viejo Mundo sigue teniendo importancia primordial y debemos dejar como herencia, no solamente las obras de la civilización hechas por el hombre sino también la naturaleza misma.

Las fuentes naturales de Turquía, que cruzan entre Asia y Europa, han sido un manantial de vida para cientos de millones de personas desde el año 9.000 A.C. Desde ese entonces los pobladores, a medida que han establecido civilizaciones, han utilizado los recursos naturales de Anatolia y han desarrollado una tecnología para mejorarlos y mantenerlos. Hoy en día, el pueblo turco está tomando medidas para asegurar un futuro viable de sus recursos naturales.

Hacia un programa de ecoturismo en los países del GCC

SAEED A. MOHAMMED

El turismo es una industria que está creciendo rápidamente a través del mundo entero. La industria del turismo masivo estalló en el siglo XX, particularmente después de la segunda guerra mundial. En los sesenta, un tipo de turismo diferente y pequeño comenzó a surgir, un tipo que estaba preocupado con el medio ambiente, o sea un turismo basado en la naturaleza. Este sector nuevo y alternativo dentro de esta gigantesca industria, se conoce hoy en día como ecoturismo. De acuerdo con las definiciones de la IUCN, este tipo de turismo está definido como sigue: viajes responsables ambientalmente y la visita a regiones naturales que no han sido disturbadas, con el propósito de disfrutar y apreciar la naturaleza. És un proceso que está creciendo rápidamente en muchos países donde las áreas protegidas y sin disturbar son usadas como parte de las actividades ecoturísticas.

El Proyecto Dana, Jordania

KHALED IRANI Y CHRIS JOHNSON

Jordania es un país pequeño y árido que mantiene una variedad notable de habitats salvajes y muchas especies endémicas. Tiene una población que crece rápidamente con una tasa de crecimiento que en la actualidad excede el 3.1%. Las presiones del desarrollo y la pobreza han resultado en una severa degradación del suelo, que ha provocado una extensión del habitat y la pérdida de especies: problemas que han sido exacerbados con los conflictos del Medio Oriente. La urbanización ha avanzado, con más del 70% de la población viviendo en pueblos y ciudades, pero la mayoría del resto de los habitantes depende de una agricultura de subsistencia o pastoralismo y muchos continúan con su vida nómada. El gobierno ha demostrado un compromiso con la conservación de la biodiversidad, siendo un signatario de la Convención de la Biodiversidad, pero le faltan los recursos financieros para invertir grandes sumas en los programas de conservación nacionales y acarrea una deuda nacional de \$7.2 miles de millones de dólares. Su estrategia es inusual por el hecho de que ha otorgado un mandato a la Real Sociedad para la Conservación de la Naturaleza (Royal Society for the Conservation of Nature, RSCN), un NGO establecido hace tiempo, para erigir y administrar áreas protegidas e imponer las leyes de protección de los animales salvajes. Las áreas protegidas son la base de las iniciativas de conservación de la biodiversidad del país y hasta la fecha, se han establecido seis cubriendo más de 1.000 km². Todas tienen comunidades a nivel de subsistencia viviendo dentro o en los alrededores de sus perímetros.

El caso estudiado examina el resultado de un proyecto pionero, implementado por la RSCN, que ha tratado de mantener la conservación de la biodiversidad en las áreas protegidas de Jordania por medio del desarrollo de la comunidad basado en la generación de ingresos a través del mercado y de los programas de turismo. Describe cómo los esquemas para generar ingresos pueden ser usados para ayudar a regular las prácticas del uso de materiales que causan daño y promover actitudes más positivas hacia las iniciativas de conservación. También llama la atención en lo que se refiere a los beneficios que resultan del refuerzo institucional para permitir que los planteamientos basados en la comunidad se mantengan y se implementen efectivamente.

La exploración de gas natural en las áreas protegidas: el caso del Kirthar National Park en Pakistán

ALI QADIR

Una licencia para explorar un bloque que abarca más del 90% de un parque nacional en Pakistán ha sido otorgada a dos compañías multinacionales de petróleo y gas. Varios grupos ambientales, incluyendo el Comité Nacional de la IUCN de Pakistan, han resistido el progreso de las compañías y han sido instrumentales en la tarea de despertar la conciencia pública sobre este hecho. Con las compañías y el gobierno federal ansiosos por explotar reservas potencialmente grandes, se ha creado un impasse durante los últimos dos años. El IUCN de Pakistán ha trabajado continuamente con los accionistas para lograr una solución aceptable. Desde que el parque fue originalmente notificado en 1974, no ha habido ninguna información científica actualizada acerca de su valor en relación con su biodiversidad o su ecosistema y eso está causando gran inquietud. La Unión ha pedido un estudio más profundo del parque antes de que se tomen decisiones acerca de su exploración y numerosos grupos le han brindado apoyo. Recientes diálogos con las compañías han resultado en una posible solución, a través de la ejecución del estudio, que no desafía la legislación de conservación existente y que también mantiene la integridad del Kirthar National Park. En todo este proceso la IUCN ha permanecido preocupada con los más amplios puntos en cuestión que rodean este conflicto: gobernar para la conservación; el impacto en otras áreas protegidas del país y la creación de una asociación única para el futuro de un desarrollo sostenible en el país.

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World Commission on Protected Areas (WCPA)

WCPA is the largest worldwide network of protected area managers and specialists. It comprises over 1,300 members in 140 countries. WCPA is one of the six voluntary Commissions of IUCN – The World Conservation Union, and is serviced by the Protected Areas Programme at the IUCN Headquarters in Gland, Switzerland. WCPA can be contacted at the IUCN address above.

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- ensuring that protected areas are placed at the forefront of contemporary environmental issues such as biodiversity conservation and ecologically sustainable development.

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